DOCUMENT RESUME

ED 258 461 FL 015 089

TITLE The Journal of the Society for Accelerative Learning and Teaching. (Volume 5, Numbers 3 through Volume 6, Number 4).
INSTITUTION Society for Suggestive - Accelerative Learning and Teaching, Des Moines, Iowa.
PUB DATE 81
NOTE 505p.
PUB TYPE Collected Works - Serials (022)
JOURNAL CIT Journal of the Society for Accelerative Learning and Teaching; v5 n3,4 Fall,Win 1980 v6 n1-4 Spr-Win 1981

EDRS PRICE MF02/PC21 Plus Postage.
DESCRIPTORS Academic Achievement; *Acceleration (Education); Classroom Environment; *Classroom Techniques; Cognitive Development; *Educational Psychology; *Educational Strategies; Elementary Secondary Education; Higher Education; Individualized Instruction; Intensive Language Courses; Learning Disabilities; *Learning Strategies; Music Activities; Neurological Organization; Relaxation Training; Scholarly Journals; Second Language Instruction; Self Esteem; *Suggestopedia; Teaching Methods; Tutoring
IDENTIFIERS Silent Way (Gattegno); Suzuki Method

ABSTRACT

Numbers 3 and 4 of volume 5 and numbers 1 through 4 of volume 6 of the journal, spanning fall 1980 through winter 1981, include articles concerning the individualized study center; consciousness, psychology, and education; suggestive-accelerative learning and suggestopedia; creativity; brain lateralization; the Lozanov method; biofeedback and relaxation techniques; ERIC bibliographic information; learning disabilities; music in the classroom; foreign language instruction, including intensive instruction; morale building to facilitate learning; games; psychological modeling; experimentation with these methods with large groups; biogenics; the Silent Way method; the holographic nature of the reading process; use of undirected visual mental images; psychosynthesis in higher education; elementary spelling instruction; mental imagery in early cognitive development; intensive tutoring; and the Suzuki method and the suggestopedia. (MSE)

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THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Volume 5, Number 3 Fall, 1980

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Published by the Society for Accelerative Learning and Teaching, Inc.

ISSN 0273-2459

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Guidelines for Contributors

The Editor welcomes submission of manuscripts on an interdisciplinary nature relevant to all aspects of suggestive learning-teaching-therapy counseling within the theoretical and procedural confines of Suggestology and/or Suggestopedia. The JOURNAL FOR THE SOCIETY OF ACCELERATIVE LEARNING AND TEACHING will publish a wide variety of articles - including critical reviews, theoretical analyses, speculative papers, case studies, quasi-experimental studies, as well as reports of empirical research (basic or applied) of major significance. The basic focus is Suggestopedia theory , research and application.

MANUSCRIPTS should be typed on one side of standard (8 ½ x 11 non-corrasable) bond typewriter paper, clearly mimeographed or multilithed. *Do not use ditto.* The original and three copies (carbon or dry electrostatic copies) should be submitted. Authors should also keep a personal copy to check against proofs. *All material must be double-spaced,* with ample margins (1 ½ in. on each side and 1 ½ on top and bottom). Any paper should not be longer than 20 typewritten pages, excluding bibliography, footnotes, tables, figures, etc. In special cases, longer papers may be submitted for publication.

REFERENCES should follow APA style. Authors should follow the standardized bibliographic format for reference citation as shown in the American Psychological Association Manual (1974). In the body of the text, the published work of others should be referred to by name and publication date in parentheses as follows, "Prichard and Taylor (1976) reported..." In the bibliography at the end, the referred-to articles should be listed fully in alphabetical order by author(s), title and publication source information as follows, "Prichard, A. & Taylor, J. Adapting the Lozanov method for remedial instruction. *Journal of Suggestive-Accelerative Learning and Teaching,* 1976 (Sum), 1(2), 107-115." Footnotes should be used to refer to unpublished material not generally available to readers, for example in the text, "Schuster claimed that relaxation..." A list of all footnotes should be typed on a separate sheet and placed between the end of the text and before the bibliography. An example of an entry in this list of footnotes is, "Schuster, D.H. The effects of relaxation and suggestions on the learning of Spanish words. Unpublished report, Psychology Department, Iowa State University, 1972, 6pp."

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PROOFS in typescript form of each article, letter to the Editor, brief communication, or book review will be returned to the author upon final acceptance of a manuscript. These are to be reviewed carefully and returned to the Journal's publication address within 5 working days. Typescripts not returned within this time limit will be considered approved. Authors are cautioned to read all tabular material and quotes against their copy of the original manuscript. Authors will receive 5 copies of their work on publication.

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The Journal of the Society for Accelerative Learning and Teaching,
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THE JOURNAL FOR THE SOCIETY OF ACCELERATIVE
LEARNING AND TEACHING

Volume 5, Number 3 Fall, 1980

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For subscription, send form to: SALT Journal, Psychology Department, Iowa State University, Ames, IA 50011.

Subscription rates : $20.00 per year individual subscription; $36.00 for two years. Outside U.S. add $5.00 per year for air mail; (Canada and Mexico, same as U.S.)

Back issues : $7.00 per copy, $12.00 per doubled copy. List of available back issues sent on request.

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Printed in the U.S.A.

J. of Society for Accelerative Learning and Teaching, 1980, 5(3)

The Individualized Study Center: An Alternative Education Program

Robert D. Prail
Vicki A. Jones
and
Fred S. McIntyre

Abstract

This is an expanded and updated report of a presentation given at the 1979 SALT Conference concerning an alternative school in Texas for students with problems. The school philosophy deals with the complex interaction of familial, social, school and pupil emotional-cognitive factors. The staff uses many different methods and techniques in working with students, and believe the school is quite successful as compared with conventional schools working with similar students.

NOTE TO READER

This paper represents a

NON-LINEAR

PARTIAL PRESENTATION

to

DEPICT or CHARACTERIZE

some **of the current, significant aspects**
of an Alternative Educational Program, in
its 6th year [illegible] ongoing development.

A survey reflects that most alternative
programs appear to be primarily
Vocational or Detentional.

Here is

A THIRD ALTERNATIVE

NOTE ON COST EFFECTIVENESS:

Cost per person prevented from referral to a tax-supported institution	$ Unknown
Cost per person referred to a tax-supported institution per year minimum (1978)	$ 11,700
Cost per student, Alief ISD (Average daily attendance, 1979-1980)	$ 1,702
Cost per student, assigned ISC fulltime (1979-1980)*	$ 2,293
TOTAL INVESTMENT (1974-1980) ISC: Includes salaries, fees, land, buildings, paving & supplies	Appx. $1,090,000

*This figure includes student, parent, and faculty contacts who are not assigned, or assigned only part-time to the ISC, yet who are seen by ISC faculty and resource people. This number of contacts almost equals the number of students (and parents) assigned full-time to the ISC.

Because of the ISC program, which tends to keep the youngsters in school (and off the streets), the average daily attendance is up, thereby redeeming funds from the state which would have been lost because of truancy or suspension.

DIRECTOR TO NEW TEACHER:

". . . and we have never given pops or paddled anyone . . ."

Idea/Milieu

Behaviors

Where is the place for students who exhibit unacceptable behaviors in the educational setting? These behaviors may range from truancy, misconduct, drug abuse, depression, emotional outburst, and to more violent behaviors. Most of these students have backgrounds that include child abuse, child neglect, physical ill health, nutritional deficits, and cultural deprivation.

Character Features

Partial Introjects

Such students have not made acceptable adjustments—intellectually, emotionally, or socially—even to a modern and contemporary school system that utilizes the most current techniques and concepts. *These youngsters have not been able to successfully integrate into a dominant lifestyle, which could allow a synthesis of character structure, self-concept, value system, and behavioral expression acceptably relevant to be reinforced by that dominant lifestyle* . Lacking enough characterological features consonant with the shared and accepted behavior-value-system, they yield many signs of internal stress and often reflect immature and even primitive, infantile reaction patterns.

Socialization Conflict

These behavior patterns frequently bring them into conflict with peers, adults, and/or the adult authority in an immediate social structure, the school system. Socialization, then, has often become a loose ganging-together for a "parallel play" by marginal or alienated adolescents, largely given direction by their efforts to "maintain a feel" of a *camaraderie of contrast* to the lifestyle of age-mates, and to engage in a power struggle with adult authority.

Traditional Response

In previous times, a traditional educational system, with strong emphasis upon cognitive and behavioral conformity to local lifestyle, relied upon suppression; failing that, isolation; failing that, expulsion (onto the streets).

Alternative Education

In 1974, the Alief Independent School District established an Alternative Education Program in the Individualized Study Center (ISC), which has been in continual development and refinement. (First located in a store area in a shopping center, next in an unused tax office, and now in three two-story octagonal vacation-type houses built for the purpose near Elsik High School.)

THE INDIVIDUALIZED STUDY CENTER
Alief, Texas

ISC Director to Education Association Visitor:

". . . Students are assigned full-time to the ISC for periods ranging from 3 weeks to a full school year . . .

. . . And we also have part-time students . . .

. . . We can take them into the program at any time during the year . . ."

TEACHER TO VISITOR:

"Most of the kids come to the ISC with files 2 inches thick, reflecting years of problems . . . school and elsewhere .

"At least while they're here, rather than call them 'losers', or 'bad', or worse, we try to respond to the person— the whole person."

ABSTRACTED from Wicker, Weinstein, Yelich and Brooks

It has been argued that education should be oriented more toward teaching broadly generalizable cognitive skills. . .and less toward the acquistition of a particular content.

Multi-level Response

There was a recognition that the response of an educational institution to the complex individual-group problems presented by such youngsters must necessarily be complex, minimally involving familial, affiliational, behavioral, emotional, and cognitive variables.

Reference Group

The ISC social system can be given direction by altering significant variables. An effort is made to shift the reference groups of the *individual students* from marginal and alienated groups to a more healthy, open, and accepting group, as reflected in the milieu of significant others as created at the ISC.

Interaction Demonstrated

The student is given emotional support, presented with coping skills and cognitive strategies, and taught intellectual skills. These are experienced by the individual and are demonstrated many times a day by significant adults, the staff's interacting with each other and with other students. THE METHOD IS USED TO TEACH THE METHOD.

Alternative attitudes, techniques of give-and-take, acceptable speech and behavior are "here-now" largely relearned from this *new* reference group and significant adults by identification, imitation, and repeated exposure to more successful, more conflict-free outcomes. Thus, the intellectual training, the cognitive skills occur in a setting of relationships, which are integral in a relatively *consistent* social system that gives the student(s) support.

Inhibited Potential, Personal Redefinition

An alternative for the faculty has been to approach these students as people whose potentials have been inhibited and/or perceptions biased by emotional conflicts, different value systems, and many personal defeats—with friends, within family, and in intellectual tasks. These defeats bring about such reactions as the avoidance behavior of "learned helplessness", the inconsistent behavior of approach-avoidance, the self-fulfilling prophecy of self-defeat, and the search for non-threatening minimum-demand situations in *contrast life-style* relationships. So, creating situations which allow that person to achieve, with acceptance and encouragement, and begin to redefine themselves is a challenge to which responses are limited primarily by the flexibility and imagination of the responder.

STUDENT SELF-DESCRIPTION

"I'm not like my brother. . .
He's a jock. . makes good
grades. . I don't know . . .
I'm not smart. . .You've
heard 'Born to Lose'? . . .
I just seem to get in
trouble. . .If there's
trouble. . .I'm around . . ."

(SMILES). . .

ABSTRACTED from Tiggemann & Winefield

An initial test situation,
not solved, required 10.9
tries to solve on retest.
When initial test solved,
retest solved in 1.6 trials. . .

SCENE: Teacher, barber
shears; chair;
newspaper
under chair.

Students and teachers
alike requesting their
hair to be cut.

OUTCOME: Sharing of humanity;
Trust
Closer adult/youngster
relationship
Grooming with socialization

OVERHEARD:
One Student: " *I like*
Mr. (X, a teacher). . .
I just like to talk to him .
He listens. . .that one
(Mr. Y, another teacher)
doesn't. "
Another Student: " *I like*
Mr. Y; he tells me how
to do things better . . ."

INTERVIEW: STUDENT TO PSYCHOLOGIST

" We mess around. . .
Ride around. . .Smoke . . .
Find some. . .I don't know . . .
Mess around . . .
Go home. . .Sleep . . ."

EDUCATION ASSOCIATION VISITOR:

" Did any of the kids see
TV last night? "

TEACHER #1: *" These kids don't watch TV."*
TEACHER #2: *" No, they don't. "*

ISC STUDENT:

"This is the first
time I can remember
that I passed all
my subjects. "

DIRECTOR, ISC
Fred S. McIntyre

Resume of Degrees and Experience

Degrees:
Bachelor of Arts
Master of Education

Educational-Occupational Experience:
Teaching-Elementary
-Middle School
-High School
Administration-Middle School
-Alternative Education
Business-Director of Planning & Programming
MA-6 Manpower Training Program
25 years of Educational and Alternative Programming Experience

Students/Faculty:

Supportive Structure

Upon entry/transfer to the ISC, the student encounters a supportive structure. This social organization is characterized by a warm-hearted, generally cheerful, cooperative air. Students help students and students help teachers. Teachers help students, and teachers help teachers in almost constant interaction throughout the day.

Students and the Director

The Director actively takes part in orienting the students, gives general support, and becomes the firm-but-kind mediator and arbitrator for expected human differences. His presence and observable interaction with the teachers and students help maintain the dominant themes of the nonpunitive, supportive structure.

Counselor/Teacher

The student is observed during the first few days by the faculty, and the one to whom the student shows the greatest affinity becomes his counselor (not formally labeled). This counselor, agreed upon at staff meeting, makes himself most accessible and becomes the one to whom the youngster most frequently turns for adult aid and support. This counselor/teacher is the one who apprises the student of his progress and is an active communication link between faculty members and the family members, seeking to maximize a cooperative exchange.

Families:

Attitude

The families reflect a broad range of socio-economic, educational, and ethnic backgrounds. Their attitudes toward the ISC are initially slightly guarded, though most families welcome the professional interest and personal aid in dealing with the problems of their youngsters. A few are *a priori* negative and defensive, or passively refractory.

School Accessibility/Resource Support

The cooperative phone call by the teacher to the parents *each week* ; the "open-door" policy of the Director and the ISC faculty, for parents to come in for discussion "any time"; and the invitation for weekly-scheduled Parent or Family Group Meetings, and/or Individual Therapy/Counseling, are conducive to cooperation.

Family Problems

Frequently, these families report several members as having a history of problems involving school, and the parents express having "lost control" of their youngsters. Such parents often feel bewildered and inadequate. They most often welcome the intervention of the ISC.

INTERVIEW: PARENTS AND PSYCHOLOGIST:

#1
Father: " *I ran the streets when I was a kid. . .I don't think it hurts. . . Makes a man of you.* "

#2
Mother: " *Oh, yes, his brothers were like that, too. . .they're gone, on their own. . .we see them ever so often. . .when they need money.* "

#3
Mother: " *We just couldn't make him go to school until we moved here. Now he seems to like it. . .or something, I don't know. . .he goes . . .*"

#4
Father: " *All he seems to want to do is come home and get loaded. . .it's different from when I was growing up . . . there were certain things you had to do . . .*"

SCENE: Teacher, walking by
student, staring
straight ahead
TEACHER: " *Go on, finish*
that page of math. "
STUDENT: Jumping up
Screaming " *I can't stand it!*"
Thrashing around
Pushing over a 12 foot planter. . .
Dirt and all
Running
Sobbing, out of the room. . .
ISC TEACHER: Calling after him,
" *Come back when*
you can . . ."

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TEACHER: " *I really enjoy teaching 2 subjects*
as more intercurricular. . .
it lets me develop parts of
myself . . ."

Teachers:

Flexible/Competent

These teachers volunteer, are picked, then trained. They are characterized by a youthful, energetic attitude, being generally enthusiastic, flexible, experimental, and empathetic. Each is certified in two areas and can competently assist students in subjects other than those of the teacher's speciality. The teachers reinforce material from all the student's subject areas, since the academic program is often interdisciplinary.

Teacher Freedom

Such resourceful teachers are allowed the freedom to be innovative and to experiment with teaching-learning techniques and approaches across subject areas. Background is often given by consulting professionals. Teachers say that this freedom is one of the things they enjoy most at the ISC. This experiencing of the new and the novel, shared by teachers and students, often adds fun for the teacher and provides a thrill in learning and discovery for the student that neither student nor teacher may have experienced before.

T-Group Techniques

Role Model

Relationship Model

The relationship between students and teachers tends to become shared and a joint venture, more similar to older and younger siblings sharing in a task, keeping adult-authority features minimized. The teachers, then, most frequently serve as *adequate* adult models, possibly the most competent in a youngster's experience. This Role Model function of the teacher, the healthy, assertive relationship, the general cooperative spirit, teaches a basis for individual-group participation. This helps develop a beginning sense of individual-group-community and reinforces the tendency to shift from marginal reference groups to more acceptable, healthy individual-group relationship, and to recognize the difference.

The teacher/student group develops cohesiveness for they interact with each other throughout the school day. They work together; they recreate together; they relax together; and they eat together.

Attitudinal Flexibility

These teachers have been described as "extremely tolerant, very patient, having great understanding, a very high shock level, high expectation for success, maximum ability to cope with failure and certainly a good sense of humor." (No one said dealing with adolescents is easy.)

PURPOSE: Learning to be a participating, responsible member of a group.

SCENE: Skating rink

Students and teachers roller skating

TEACHER'S NOTES:

(*Student A*) 1) reduce negative behavior patterns by replacing with co-operation-success paradigms 2) reduce as much attention as possible from negative behavior by interdicting with needs responses. primary, writing - secondary -co-op. on assigned goal. emotional expressions of any kind

(*Student B*) increase social acceptance as method for reducing depencence on (*Student C*) for self identification

SCENE: Teacher to student with small radio:

" *You may play it as long as you continue to work and it doesn't disturb anyone else.* "

Student sits on floor, works.

Teacher to other, " *He really does work better with his music on . . . We've tried it both ways.* "

SCENE: WEEKLY STAFF MEETING
TEACHERS AND
VISITING PARENT

Teachers warmly introduce themselves to visiting parent;

Ask about brothers and sisters teachers have known;

Establish cooperative air;

Ask parent how student does at home;

Teachers compare reported home behavior with observed school behavior;

They continue this exchange until they have a consensual picture from which each may proceed to discuss new strategies with student.

SCENE: WEEKLY STAFF MEETING

Former ISC student comes by:
"I knew you would all be here, and I wanted to say 'Hi'."

Another student:
" *I wondered if anybody could give me a ride home.* "

Telephone rings: Student who was absent, genuinely ill:
"How did things go today? Did I miss anything?"

Staff Meetings:

Among the teachers a *camaraderie* and group coherence develops and is reflected in their Weekly Staff Meetings—sharing experiences, techniques, and approaches that each has found to be valuable, as well as venting frustrations and supporting each other's morale.

Attendance

These weekly staff meetings are attended by the director, teachers, aides, secretaries, youth counselor, educational diagnostician, psychologist, and biofeedback/relaxation trainer as a regular group. Parents and students have an open invitation to attend and discuss any issues. At times, a special invitation is given to a particular student's parents and siblings. Interestingly, many times parents have requested to talk with the faculty. More interestingly, students request to meet with the faculty and discuss how they are getting along at the ISC.

Flexible Agenda

The agenda for staff meetings is not rigid. At these meetings, the staff may review the entire ISC population individually. And certainly, they discuss those youngsters (behaviors, relevant test data, remediation progress, etc.) whose current situation demands priority. The discussion continues until there is consensus as to handling strategies and how best to help the youngster learn to cope with school demands. Another important function of the staff meetings is for the teachers to utilize the resource people and to give feedback to those consultants and participate in decisions and planning.

Tension Levels
Positive Reinforcement

Reflecting other attitudes in the program, the initial response is to the teachers' needs. THE METHOD IS USED TO TEACH THE METHOD.

When teachers need to ventilate ("blow off steam"), that's first on the agenda. When they need support, that is given by the group, the director, the psychologist, the relaxation trainer, and the youth counselor. When the tension levels of the group have decreased, the psychologist or relaxation trainer leads them through some relaxation procedures, and gives positive reinforcement about their handling of the youngsters, and the appropriate concepts and techniques and how to implement them.

1st Teacher (Female): *" I'm getting tired of hearing that from that kid.. first thing, every morning . . . I'm telling you, he's just like my brother . . ."*

3rd Teacher: *" I simply don't allow that in my building . . ."*

1st Teacher to Male Teacher: *" Would you do something about that kid? "*

Another: *" I have him brush his teeth every time I hear him talk like that . . ."*

Director to 1st Teacher: *" Why do you let him get away with it? "*

Male Teacher: *" Oh, we get along fine. . . we'll talk it over. . . "*

SCENE: STAFF MEETING

Teacher: *"Does anyone know what's going on with——————? She's been crying in class."*

Another Teacher: *"Her father's coming home from the___(X)___ unit tomorrow, and you know how he beats up her mother."*

Teacher/Counsellor to whom student relates best: *"OK, then I'll see if I can get her to talk it out with me."*

ABSTRACTED from Schuster & Prichard

The emphasis should be on training teachers in a number of areas and on a "positive suggestion" teaching style that integrates art, music, and drama with a major emphasis on teacher behavior.

WHEN PEOPLE ARE HUNGRY-—
TEACH THEM TO FISH-—

FREQUENTLY HEARD:

TEACHER TO DIRECTOR:
"I think we could use (technique) with (student's name)."

DIRECTOR TO TEACHER

"That sounds like a good idea. . . Why don't you try it a few days and see . . ."

Feedback

Video taping of the staff meetings with playback to the teachers has been found to greatly enhance their skills at more quickly arriving at a consensus and to facilitate a firming-up of their (new) role as counselor-/teacher.

Role-playing, rehearsal, review and stimulation of new techniques, or modification of already known techniques is markedly facilitated by video recording and immediate playback and supportive discussion.

Teachers and the Director

Teacher Participation

Staff Meetings each week support open lines of communication. The director encourages teachers to speak freely, discuss, agree and disagree, and to offer opinions and suggestions. When most alternatives are presented, he often accepts the faculty's decisions. Occasionally, the director overrides this consensus, giving a rationale, thereby building understanding and trust. Usually, there is agreement after more experience; sometimes extended experience indicates that new alternatives must be derived and the whole staff brainstorms until a viable appraoch emerges. This recognized importance of each person's participation builds cohesion and coherence of purpose, sustains morale (with observably less teacher fatigue, which is a deterrent to teacher burnout) and lends flexibility to the staff's response and approach.

When a new alternative is derived and tested for functional value, there is an alteration and/or extension and elaboration of the current rationale.

Respect for teachers is reflected in teachers' respect for students. The director sets the tone and atmosphere of acceptance and respect for the individual.

ISC Daily Sequence of Events

Values Discussion

Students and teachers discuss use of life strategies, ways of relating: Communication, speaking-listening skills, personality, self-concept, value-systems, how to handle self and others, etc. More than one teacher may join in discussion as participants with the students.

Cognitive Skills

Learn-to Learn-and Recall-Studies

Peer Teaching

Confluent Teaching

VISITING PSYCHOLOGIST:

". . .Also, I'm really impressed by these teachers, their enthusiasm. . . And they really know their kids . . .

. . . say, have you thought about using this approach in a regular classroom. . .or with gifted students . . ."

☐ Yes ☐ Dream on ☐ Would be nifty ☐ Other

Spring 1980

ISC DAILY SEQUENCE OF EVENTS

8:00 - 8:20	Values Discussion
8:20 - 9:10	Cognitive Skills (1st Period)
9:10 - 10:00	Cognitive Skills (2nd Period)
10:00 - 10:20	Relaxation
10:20 - 11:10	Cognitive Skills (3rd Period)
11:10 - 11:30	Reading: Bring a book and a pillow and plan to read and have a great time
11:30 - 12:00	Lunch
12:00 - 1:10	Relaxation and Cognitive Skills (4th Period)
1:10 - 2:05	Activity/Recreation: Bring your shoes and lose your blues

NOTE:

The "Schedule" is modified as appropriate to current student populations; also, individual prescriptive variations are made.

Students gather around the teacher's desk and bookcase, and lessons are learned concurrently by two or three grade levels, hearing and overhearing explanations given to the others. More advanced students may help teach other students. The same levels of achievement must be attained as standardly required to pass a given grade level, using standard textbooks as well as popular media. The cognitive skills used for this learning are varied. The teacher may present the material, using standard audio-visual aids. They may guide the students through the material, using exercises, internal exercises of guided imagery, or external exercises such as writing/journals, drawing, discussion, even role-playing, thereby involving the nervous system and group-individual in confluent interaction.

Memory

Self Esteem

The students are taught to use memory and recall devices, image building and relating, key-word techniques, association techniques, journal keeping, non-linear note taking ("mind-maps"), and mental movies. These are used to raise self-esteem and demonstrate to them that they have "working brains" and need not be defeated by school. The effect on the person is often delight at his own recall performances and fascination with the new and novel. Several students have gone out to astound friends and family—and mostly themselves.

Foreground/Background

When each creates his own "mind map" or journal, and he compares, he learns the world can be experienced (perceived) and expressed (symbolized) many different ways, even by peers. He finds each person has his individual ways of experiencing, emphasizing/highlighting this, ignoring that, and making his own internal map of reality. (The teacher may help illustrate how this map is determind by *past* experiences, anticipation of *future* events, and perception of the immediate *here-now* .)

Differences That Make A Difference

These "maps" tend to be descriptions of experience, sensory based, concrete and static, containing many visual, auditory, and kinesthetic features. Less frequently, "maps" also have chains of action, behavioral sequences, dynamic plots, and themes. Fewer still have very elaborate associations, memories, anticipations, with denoted public (shared/ethnosyncratic) meaning or private (idiosyncratic) meaning beyond stereotyped interpretations.

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TEACHERS LEARNING MNEMONIC DEVICE TO TEACH STUDENTS

Teachers using "action-association": Active-learning, recall device

#1: Going over to pencil sharpener and putting pencil in: "PENNSYLVANIA"

#2: Standing under an air-conditioning duct: "ARIZONA"

#3: Jumping toward ceiling: "OHIO"

#4: Leaning slightly at the waist, using a broom to make a hoeing motion: "IDAHO"

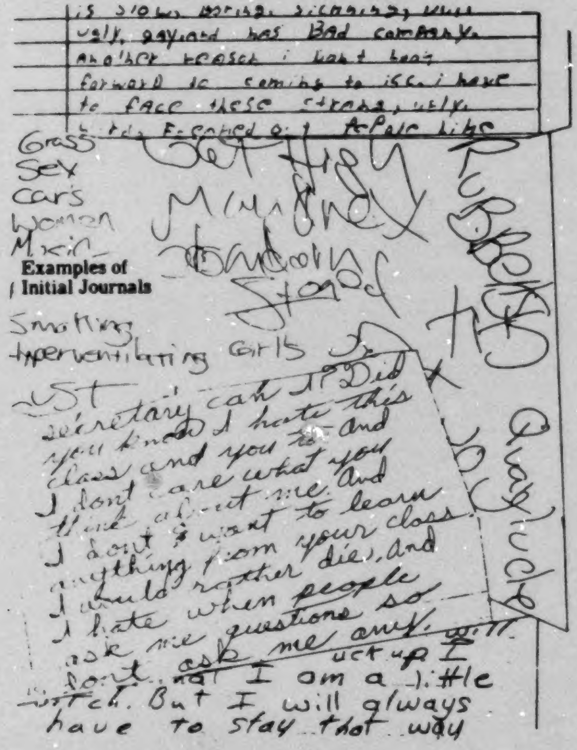
#5 Bumping a file cabinet with a hip: "TEX*AS*"

#6: Opening one drawer of filing cabinet: "CONNECTICUT, *it'll fit inside Texas*"

#7: Etc., etc., etc.

MONTH LATER: They could easily recall teacher and state, state and teacher, in or out of presented sequence.

SCENE: Student at home. Astounds family by remembering 25 items.



is slow, boring, sickening, [illegible]
ugly, gay, and has Bad company.
another reason i dont look
forward to coming to isc. i have
to face these streets, ugly,
[illegible] A Pale like

Grass
Sex
Cars
Women
Music

Get High
[illegible]
Smoking
Stoned
Rubbers
Smoking
hyperventilating
Girls
Quaalude

[illegible] can I? Did
secretary
you know I hate this
class and you too - and
I dont care what you
think about me. And
I dont want to learn
anything from your class.
I would rather dies. And
I hate when people
ask me questions so
dont ask me any. [illegible]
uck up I
[illegible] I am a little
witch. But I will always
have to stay that way

Examples of Initial Journals

Intensional/Extensional

Many of these "verbal maps" reflect an amazing, unaware mixture of descriptions, feelings, and inferences, public and private meanings, in a seemingly tangled, fragmented web of associations, identifications, fantasies, and projections.

Individual and System

Traditionally, our educational systems have been based on linear, verbal structures, a syntax that required highly specialized (left hemisphere dominant) encoding and decoding by the individual student. The representational systems, personal constructs, the "mind maps" of many students are almost not translatable into a language acceptable to a conformity-based educational system. Therefore, highlighting the flexibility of individual encoding-decoding skills appears very desirable.

Find and/or Make

As many sensory-motor channels, or modalities of the nervous system are used as possible. Certainly, the teacher may note a favored verbal-actional modality of the student's representational system (visual, aduitory, kinesthetic, etc., possibly unaware to the student himself), find and/or make overlapping modalities and help shift from one modality to others.

Utilizing a variety of approaches and techniques, the students learn to learn and recall.

Relaxation Training (RT)

RT is scheduled prior to the general tension buildup, which had been noted during third period, and again after the very unstructured period of lunch. These two periods were characterized by a greater incidence of misbehaviors and lower productivity.

Self Regulation

For adolescents it is particularly significant that the *locus of control* can be shifted from external and reactional to internal and volitional. This strengthens identity, personal integrity, self-esteem, and can be used to show the individual that, in a basic sense, "You are boss of yourself; therefore, you don't have to fight others to prove that you are your own boss."

Teacher: *" My lunch and my relaxation are not to be interrupted. One little gal would get about [illegible] minutes into relaxation and then need a drink, or need to go to the bathroom. "*

" So, I wrote her a note: 'It's 5 minutes before relaxation; please do what you need to do now' and handed her the paper ."

" Now, I just hand her the paper (with nothing written on it), and soon all I'll have to do is look at her. "

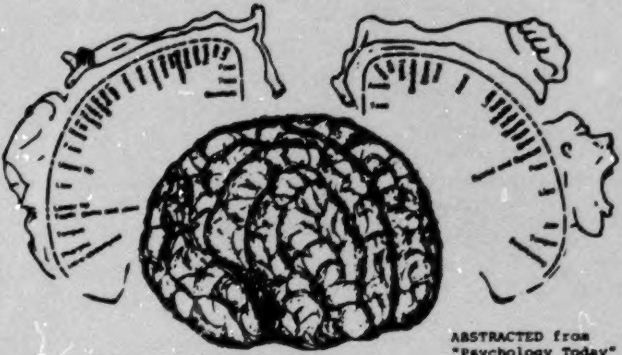
"Afterwhile, she will prepare on her own . . ."

"She's coming along . . ."

TEACHER TO NEW ISC STUDENT:

" **You may not need** *relaxation to make it through the day ,* **but I do .**

Now, you try it, too! "



ABSTRACTED from "Psychology Today"

SCENE: Students lying on floor, relaxing.

Teacher spelling words verbally.

Student tracing spelling of words in the air with fingers.

Later: Students writing words on paper.

SCENE: On exam day morning, student decided to Skip her morning joint.

Teacher started to Skip relaxation;

Girl began crying, saying,
" I would rather have Relaxation than smoke a joint, But I didn't get either one. "

Neurologically Based Sequence

This relaxation procedure is characterized by a neurologically-based progressive relaxation sequence, autogenic training phrases, pleasant suggestions, foreground and background of sound techniques for quieting both brain hemispheres, and regulating the breathing, calming the person. The basic relaxation tape, narrated by a female voice, has a progressive relaxation sequence in the foreground, with background sound that has ranged from music to nature sounds, accompanied by a 60-beat metronome.

The first relaxation period focuses more on bodily reactions, brain-mind states, and lowering of stress and tension levels. The second relaxation period in the day focuses upon bodily relaxation, then strengthening various modalities of imagery, stimulation of creativity and guided imagery, "mental movies", and cognitive reinforcement.

Technique Synthesis

Relaxation is also used in combination with cognitive-motor skills. Teachers have used relaxation before exams to help students allay anxiety, and organize the information more easily. Relaxation has also been used after the usual audio-visual presentation of material to aid retention, and followed by an active utilization of the material.

Biofeedback Training

Biofeedback Selection

Fewer Distractions

At the ISC, biofeedback training is integral with the overall program, mostly recommended for those students who find it difficult to participate in the relaxation training, and learn to enter a relaxed-but-aware state. Usually, they are the more tense, distracted, and "hyper", who literally cannot "slow down". Generally, these more uncomfortable people respond quite well to instrumental training and, in turn, are able to function far better in the class. They have learned to have fewer "internal distractions" and be less "external distraction" to others.

Mutual Reinforcement

Relaxation and biofeedback training bring the individual into better contact with his own body states; therefore, much of his own basic reality comes under his control. The individual then tends to shift the *locus of control* away from external stimuli and sets up boundaries for the existential-self (me and not-me). This *psycho-physiological training* at nonverbal levels integrated into a supportive social system, whose *meaningful themes* emphasize the individual as *self-directing* , sets up *mutual reinforcement patterns* for the student.

SITUATION: A lone student sitting at a desk, rocking back and forth, back and forth.

DIRECTOR: ISC Request that Biofeedback Trainer see the student, who is in isolation because of disruptive, over activity.

LATER: Student gaining body contact through muscle biofeedback, "*I wish I had one of these (biofeedback instrument) at home so I could go to sleep at night.*"

WHERE: An area set apart from rest of students

WHO: Student who has had previous biofeedback training

WHEN: After using it to relax today, remarked, "*It didn't fail again!*"

Karate and judo experts don't have to start fights.

ABSTRACTED from
Carter & Russell

Significant increase in performance and achievement tests, better access to current and previously learned academic information appear to result from competent biofeedback/relaxation training of learning disabled children.

25,

A frequent verbalization is "When you know where you're 'coming from', you don't have to prove it."

Training Motivation

For some individuals there is status and, therefore, a social motivation for requesting biofeedback training. Also, a number have expressed interest in the science fiction romance of being able to train themselves with electronic instruments. Others simply have been amazed at their own physical reactions and expressed considerable wonderment and awe and, in turn, curiosity about how their bodies function. Some seek subjective comfort to allay anxieties and self doubts and to have some control in one's own life. Others seek adventurous imaginings, express a desire to be a Superman, though essentially striving to be adequate and competent.

Observable Changes

For the majority, biofeedback training and relaxation training provide obvious benefits to the emotional, intellectual, and physical functioning of the students, that friends, family, and even teachers observe.

Handling

Inclusion/Exclusion

Predictably, a general Reward-Punishment Continuum, relating to the rules of the ISC, has been frequently discussed at weekly meetings. At the ISC, *reward* may be extra privileges, extra congratulations, encouragement, greater inclusion, activities that carry some status (i.e., helping others, as acting secretary, etc.). Most interactions are classed in a broad, *neutral* band, while toward the *punishment* end is a lessening of privileges, greater and greater exclusion from the group, isolation, possibly suspension.

Limit Setting

When possible, the general procedure is to reward behavior that is desirable. Ignore unwanted behavior until it is approaching being carried on too long or too far. Then teachers let the student know their reactions; how they feel; name the "game"; and inform them of possible consequences. If the unwanted behavior continues, those consequences are carried out.

Peer Pressure

Teachers often express surprise that peer pressure is placed on the individual, even *before* that first warning, and again *after* that first warning.

JOHNNY, SITTING APART FROM OTHER STUDENTS

DIRECTOR: " *What are you doing sitting over there?*"

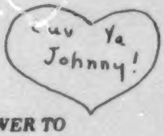
STUDENT: " *Mr. A. told me to sit here* (isolation)."

DIRECTOR: " *That's a good place for you to sit .*"

TEACHERS AT DAILY DISCUSSION: " *Let's let Johnny work himself back into the group, and then on Friday, it'll be 'Johnny Appreciation Day'.*"

ANOTHER TEACHER: "*And all the students can take part, too.* "

THIRD TEACHER: " *And we'll all wear tags that say:*



STUDENT'S ANSWER TO

Most Negative Experience while at the ISC:

Being suspended...

SCENE: Teacher to student who is acting-out:

" *You know the rules. Why are you making me have to do (X) to you? I don't want to have to do that; so, don't you make me have to do it.* "

#1 STUDENT: " *I don't want to come in there.* "

TEACHER: " *OK. (As an instruction) Don't come in here. Stand right where you are. Don't come into this room. You have to stand right there.* "

#2 Teacher to student who usually sleeps through movies:

TEACHER: " *You can watch the movie, or you can sleep, but you can't talk.* "

Student would rub his eyes and yawn about every 5 minutes, but he could not go to sleep.

#3 TEACHER: " *OK, ____________ if you want everyone's attention, we'll give it to you. Go ahead, you have what you seemed to want.* "

Student did talk for about 2 minutes, then "ran down".

Group went back to project.

#4 STUDENT: " *I'm not going to get on the floor and relax.* "

TEACHER: " *That's alright. Just sit in that chair and relax.* "

Turns around, talks to group. Hears/feels a "thud" as student gets on floor to relax.

A central theme is that every individual directs his own behavior: life.

Emotional Judo

Many hours of staff meetings have been utilized in discussing when and how to side-step the head-butting confrontations that so many are so adept at creating. The teachers are encouraged to "go along with" the symptom/behavior, seemingly, and not to respond to "every little remark made", then, reinterpret that symptom/behavior into an unrewarding dilemma as appropriate.

Reinterpretation

When possible, the badminton reinterpretation is given: That there need not be a more skilled and a less skilled player opposing each other, but rather each player utilizing the skills he may have to direct the bird across the net to the other one's racquet in cooperative teamwork opposing gravity. When the shuttlecock is hit by each player once, the team gets a point, and when it falls to earth, gravity gets a point.

This example is used with students and teachers to illustrate reinterpretation of many situations in which they find themselves.

Focus of Confrontation

Surprisingly frequently, the reinterpretation of a situation from a conflict with someone else to a conflict of impulses for the student helps shift the confrontation focus in the current scene and allows introspection, discussion, and derivation of new alternatives that are more conflict-free.

Vent, Dilute, Direct

The overall ISC program allows for open expression, and encourages discussion of anxiety, anger, depression, and a variety of tensions in an acceptable manner. "Negative" emotions, expressed because of the accepting attitudes, are markedly less acrid than might be expected. The effort is to vent, dilute, and direct.

Tolerance

The faculty has become more tolerant and understanding of self-dramatization, sham, bravado, and play-acting to a peer audience. As teachers reacted less, the students acted-out less, and the overall tension levels decreased significantly; expression became more genuine.

Role Expectations

The students bring with them an accumulation of expectations of dominant life-style responses to their behaviors, especially non-conforming behaviors. If the teacher reacts traditionally, it's a reinforcement in the usual manner of the previous role-expectations of that student. Therefore, real efforts are made to set new roles for both teacher and student, with alternative views and expectations.

STUDENT TO PSYCHOLOGIST:

STUDENT: " *They said I have to control myself, learn 'impulse control'.* "

PSY: " *Do you think you can do it?*"

STUDENT: " *Sure. Certainly, I can.*"

PSY: " *I think you can, too.*"

STUDENT: " *I didn't have to be sent to the ISC for that. Can't I go back?*"

PSY: " *What do you mean by that-— impulse control '?*"

STUDENT: " *Control of my impulses, not run-off, or tell off teachers.* "

PSY: " *You can do that!*"

STUDENT: " *Sure I can!*"

PSY: " *You show 'em you can. I'm sure you can. Show them. Prove it to them. Prove it to you!* "

STUDENT: " *I can, I do. I didn't run. I didn't tell off that old bi—!* "

PSY: " *Your actions are worth thousands of words. Show 'em you can.* "

SCENE: GROUNDS OF SCHOOL AREA. PILE OF OLD TIRES.

Purpose: Teach responsibility to environment
Purpose: General fitness

Students carrying tires from one place to another.

Purpose: Recreation

Students having relay races, stepping from inside one tire to inside the next.

Purpose: Hand-eye coordination, etc.

Students doing perspective drawings of the tires.

Purpose: Sundial

Stack tires and put a broomstick in the center.

Purpose: Occasionally, penality for misconduct

Students carrying tires from one place to another and back again.

ENGLISH TEACHER: SMILING

"After made some
papier-mache objects taken
from literature, he's
coming out of his shell.
Now, he's going too far. . .
But, that is the next thing
he'll have to learn. . .

B-Mod

Abstract Becomes Concrete

Realistically encouraging statements are made to students when possible. Behavior modification *sequences* and *charts* for teachers and students are utilized appropriately. *Art* projects are widely used techniques in the students' learning: Masks, wall murals, collages, one-line drawings, etc. These reinforce academic subjects, encourage active approaches in learning, involve more of the nervous system, allow individual expression, and allow teacher/student mutual support.

NOTE:

Integrated Program

A program with isolated techniques in which the skills are presented and taught, abstracted out and separated from life, requires less consideration of a range of relevant variables than a more integrated program. The more integrated program requires theory of communication, personality, culture, group-dynamics, handling, approach, and techniques that are most effectively implemented at each of these levels, including neuro-physiological levels.

Perceiver-Learner

Compounding of Variables

A program/method may be governed partially by subject contents, partially by context, and partially by dynamics of the group. While techniques of presentation are based on information and communication theory, their utilization reflects the assumptions made about the perceiver-learner. Using knowledge of the perceiver, developmental theory, neuro-psychology, motivational considerations, defenses, socialization, anxieties, etc. creates a broad range of response-expectations, both of the adults and of the adolescents involved. This makes a compounding of variables that COULD appear overwhelming. In the social system herein depicted and characterized, however, the structural variables can be given greater direction at significant times. There has been observable progress in dealing with this compounding of variables as the program has developed.

Both active and passive techniques are prescriptively interspersed in daily rhythms and weekly rhythms, etc., for these students individually and as a group, for part of the learning-to-learn-and-recall.

TEACHER: “ *I'm jealous.*
I wish it had been
like this when I
was in school. . . ”

GETTING IN TOUCH. . .
Teacher and four students jogging around outside area. Teacher, as he comes in, says, “ *These guys were restless and we went out to let off a little steam. Now, we can do some math.* ”

“ . . . BILLY, PLEASE DON'T STAND ON THE FOOTBALL ! . . . ”

SCENE: STUDENT just back
from soccer, to
SECRETARY:

“ *x doesn't get mad*
like he used to . . .

But that y hits
people; I want to
punch him out !”

SECRETARY:
“ *He'll learn.*”

STUDENT:
“ *He better. . .*”

Recreation

Activities Teach

Participation

Physical activity has been particularly valuable in lowering the tension levels of "hyper" students, as well as getting more depressed, withdrawn and/or blocking students mobilized to tackle projects. The teachers participate in the outings, games, etc. This is an area in which cooperation, teamwork, friendly rivalry, impulse control, self-image enhancement, and self-esteem may be directly and indirectly affected.

Such activities allow the participating teachers to act as role models, engage in a "give-and-take" with each other and with the students, frequently giving demonstration of ways of resolving conflicts of interest and judgment which occur on the field of action. At times, admirable restraint is shown by some of the participating teachers]

Acceptance

This is also a place in life where tolerance and acceptance of other's strengths and weaknesses may be openly demonstrated. THE METHOD IS USED TO TEACH THE METHOD.

Various equipment, including two dozen old tires, football, soccer ball, gardening equipment, boxing gloves, and a light and heavy punching bag, is available for multiple purposes. The heavy punching bag, for instance, is frequently used to aid acquisition of impulse control, for tension reduction and as an exercise device.

Affective Changes

Aerobics, aerobic dancing, and dance exercise aid in development of psycho-motor, visual motor, gross muscular coordination, and in general muscle toning up.

Running has been used for general fitness, respiratory and coronary reserve, increased oxygen to the brain, and reduction of tension levels for both faculty and students.

Health Class

Students' Conditions

Frequently, a number of the students have various health problems, most notably allergies, sinus troubles, low resistances to viral and bacterial infections. Some have had diabetes or hypoglycemia and must watch their food intake. Some have had neurological or emotional problems for which they take prescribed medications, administered at intervals during the day.

SCENE: **Depressed student telling teacher after aerobic dancing:**

" It's relly hard to get into, but once I do, I feel a lot better. "

The student was able to do school work the rest of the afternoon.

" . . . Billy, I'm not going to tell you again. Don't stand on the football! "

STUDENT TO TEACHER:

" See these skinned knuckles; yesterday, _______________ I got so mad at him, I beat that bag, man, I had to do something. I started to leave. . .

But, I'd get suspended or something. . .

I didn't pay attention to him today; why should I let him get me in trouble . . ."

SCENE: CHART OF HUMAN DIGESTIVE SYSTEM ON WALL:

TEACHER: *". . . Now, image yourself as a bite of food (and teacher continues to describe a journey through the digestive system) . . ."*

A few minutes later. . .CHUCKLES heard from that end of room.

UNDERSTANDING: ALL GIRLS' GROUP

Teacher: *" I brought in the book (on sex education) as you asked me to. Now, where do you want to start? "*

Immediate Interests

Nutrition has been an area of considerable interest to students and teachers alike. Some are concerned with their food to aid athletic prowess; others, for their figures, weight loss or gain; and others for their complexion, and still others have charted significant mood swings related to diet.

Immediate Motivation

Most adolescents are motivated to learn about the human body, as a significant part of their reality, of their identity, and a bewildering part of their very self, immediate and intimate. Yet physical presence is most apparent to others, shared and social, and it functions as one of their chief instruments of knowing and being known. Preoccupation with grooming and clothing style, vocabulary and intonation, interests and activities, affiliational choice and socialization are interests and motivating factors available at most any time.

Health class and a study of the human body are inter-curricular between physical sciences, values, art, and literature.

NOTE:

Learning Conflicts

A striking contrast may be found in some staid educational programs, in which the isolated, compartmentalized procedures became rituals and were so remote from the life of the student that conflicts were experienced. Ambivalence toward school was built up or intensified, lessening efficiency and lowering performance, and many fled a scene of defeat. The academic subject matter and attendant cognitive machinations were *supposed to be* the central preoccupying figures in the forefront of consciousness, and all other concerns of the individual were *supposed to be* relegated to the background as irrelevant.

Fantasy/Daydreams

The background, however, was all too often of more importance to the individual (greater cathexis) and distracted the student or intruded upon the focus of attention, disrupted holding a pattern of concentration. The individual's concerns may have been somewhat "controlled" by diverting the energy of the concerns into daydreams and fantasy. These daydreams, as expressions of the concerns, needs or drives of the individual, were mostly condemned by adults as strengthening ambivalence and conflict in the student rather than being utilized as bases of motivation and creativity.

VISITOR: "...YES BUT, you can't be concerned with each individual's personal concerns..."

RESPONSE "...perhaps if we focus more on holistic processes, cognitive skills and techniques, rather than so much emphasis on specific content(s)...
...we can easily direct cognitive processes to include the contents we want...
...our curriculum..."

VISITOR: "...YES BUT..."

SCENE: Teacher, walking by student, staring straight ahead

TEACHER: "*Go on, finish that page of math.*"

STUDENT: Jumping up
Screaming, "*I can't stand it!*"
Thrashing around
Pushing over a 12 foot planter...
Dirt and all
Running
Sobbing, out of the room...

ISC
TEACHER: Calling after him,
"*Come back when you can...*"

1 ½ HRS.
LATER: Student returns
Tear-streaked,
Dusty

Teacher and student go to an area apart from others.

STUDENT: In middle of night before...
Father beat mother...
Student tried to stop it...
Father fought with him...
Mother tried to stop it...
Eventually, he slept 30 minutes...
before coming to school.

TEACHER TO VISITING PSYCHOLOGIST:

"*The students don't mind not being treated all alike ...*
... they accept it very well ...
... that we treat each of them differently ..."

In programs where rigid external discipline and demands were "ever present" or internal discipline by self-coercion had been overly utilized, the excellence, the pride of achievement mostly by a few was, too frequently, balanced out by a contribution to the human tragedies of anxiety attacks and neuroses, reactive depressions, psychosomatic ills, and anti-social outbursts of violent aggression such as vandalism, riots, etc.

Unitary Approach

There is a *challenging alternative* in finding ways of recognizing and supporting the individual, providing coping skills—intellectual, emotional, social—gaining further student cooperation through utilizing his needs, interests, and concerns as motivations. Further, these may be tied into consistent, functional forms with the community, directed toward reciprocal reinforcement, each giving to the other.

Resources

Interactive, Reciprocal School Relations

Certainly, the ISC does not exist in a vacuum. It exists in a micro-macro-supra relationship to the larger School System and community. The interactions with the Middle School and High Schools vary with personnel changes and have improved through time. Initially 6 years ago, students who were primarily "behavior problems" were referred. In some contrast in the last 2 years, students with a range of problems, some expressed in behavior, and some not so obvious, have been referred. Approximately 85% return to the "mainstream" and/or occupational placement after leaving the ISC.

Special Services

The *Special Services Department* has been supportive and encouraging, and allowed the development of a multi-based, supportive, non-punitive program, knowing this would call for some innovation and experimentation, with techniques and combinations of techniques that *prima facie* may appear unconventional. Throughout, Special Services has courageously supported and defended the ISC.

The ISC functions as a resource within the larger community, and resources from the larger community function within the ISC. Students, families, and personnel from other schools are referred to the ISC faculty and its consulting professionals.

MEMORANDUM

From: Principal
To: Director, ISC
Re: Referral of Student
Reason for Referral: Student cannot cope with school

HIGH SCHOOL PRINCIPAL AT ISC WEEKLY STAFF MEETING:

" When I sent her (student) to the ISC, three other of my girls straightened up. . . "

BIOFEEDBACK/RELAXATION TRAINER TO VISITING ADMINISTRATOR:

". . . Interestingly, when asked by other teachers, our ISC teachers have demonstrated to them how to relax themselves and their students while sitting at their desks. "

TEACHER TO DIRECTOR:
" Before that company
loaned us the computer,
______________ *would hardly*
do his math, and now. . .
he can't wait. . . "

Community Resource Contact(s)

The ISC policy is to make its organization a resource to the community, and professionals from several disciplines are integral to the functioning of this social system/program.

Off-Campus Activities

The *Youth Service Specialist* has become an "on campus information center" for other programs and facilitates appropriate placement, acting as counselor and liaison when further measures are needed than public schools provide. He maintains contact with Hope Center for Youth, Hope Center Wilderness Camp, Palmer Drug Abuse Program, Halfway House, Boys' Country, and a variety of private facilities. Initially, he was a Harris County Juvenile Probation Officer and is now also a Child Welfare Caseworker assigned to the ISC full-time. Although he has an office at the ISC, the students see him as a non-school person. He interacts with students in a wide range of activities, including hikes, backpacking, photography trips, cook-outs, local outings, and field trips. He frequently counsels a student and/or parents in *crisis intervention* and refers other members of the family to the consulting staff.

Psychological Services

The ISC's range of operations makes exceptional demands on, and provides exceptional opportunities for the consulting staff. The *Consulting Psychologist* functions in both Clinical and Educational areas. He makes psychological examinations and evaluations appropriate to a clinical-educational program. He makes recommendations to the teachers, counselors, and, in certain cases, to psychiatrists. He often functions as a liaison with the psychiatric treatment units when individuals must be hospitalized. The hospitals are seen as resources for the ISC.

More uniquely, perhaps, he functions as a search-and-find, research and development person for clinically relevant and educationally appropriate procedures. He frequently designs and/or makes adaptations of techniques and facilitates their implementation as variables in the social system/program of the ISC.

Teachers and the Psychologist

The psychologist attends the Weekly Staff Meetings, helps supply continuity and direction, acts as a therapeutic agent, helps derive techniques for handling problematic situations.

Robert D. Prall, Psychologist
Certified and Licensed, Texas State Board of Examiners of Psychologists
Listed in the National Register of Health Service Providers in Psychology

Robert D. Prall is a consulting psychologist for the Individualized Study Center at Alief Independent School District, and consulting clinical psychologist for Belhaven and Alief General Hospitals. He also has maintained a private practice in Houston, Texas since 1965, and was a Lecturer in the Special Areas Department at the University of Houston. His undergraduate and graduate studies were completed at the University of Texas at Austin in 1955. After taking a clinical internship at the Mental Health Institute at Cherokee, Iowa, he joined the faculty as an instructor in Sociology and Anthropology at Jamestown College, Jamestown, North Dakota. During this period he was Chief Clinical Psychologist and Assistant Director of the State Psychiatric Clinic, State Hospital, Jamestown, North Dakota. He was also a consultant to numerous school systems and hospitals, a prison system, welfare department, etc. He later served as a consultant for the Strategic Air Command. He was awarded a Doctor of Science (Hon.) and Doctor of Letters (Hon.) after many years of contributions to professional psychology, and following his early interest in Stress Management in a range of environments, from space to clinic, hospital, and education.

NOTE: *

These procedures are relevant and appropriate to a clinical-educational rationale which reflects a focal synthesis of contemporary theory, approach, and technique. This rationale is operationally derived and functionally validated, or modified and/or extended and elaborated until validation, by accurate prediction. This bringing to a relevant focus of research and applications from a range of social, physical, and health sciences allows for a flexible rapprochement by contemporary education to meet increasingly complex societal demands.

SCENE: STUDENT TO PSYCHOLOGIST:

#1
" *Is it OK if I bring my Mom in? If you think I'm depressed, you should see her. . .* "

#2
" *You'd never get my parents in here . . .to talk to. . .*
well. . .a shrink. . .
well. . .anybody. . . "

#3
PARENT TO PSYCHOLOGIST:
(With twinkle in eye) " *I didn't want to come to this parent discussion group, but now I'm glad I did.* "

STUDENT:
" *I call that 'crash time', man! . . .*
But you feel great after. . . "

The Psychologist and ISC Director confer on a wide range of topics, evaluations and recommendations for students, handling plans, introduction of new techniques, feasibility of programs, recommendations, feedforward for approaches, etc.

Students and the Psychologist

The students have come to accept the presence of the "shrink" each week. For several years, trust has been expressed as individuals have made requests for therapy. Certainly, teachers identify youngsters who may need further professional intervention and refer them to the psychologist. After one or two sessions, the student is often the one who initiates bringing his/her own family into therapy. Therefore, the psychologist is actively involved in individual, family, and group therapy with the ISC population each week, and with faculty and students from the rest of the district, also, during his time at the ISC. Frequently, ISC parents have expressed interest in their youngster's Relaxation Training at school; therefore, recently, Stress Management and Relaxation Training have been offered for parents.

It has been increasingly obvious that the relaxation methods have proven valuable in the coping strategies of the individuals, efficient for the learning-to-learn and recall by the students, and effective for the group in the rhythms of activity in the daily sequence of events.

Teachers and Trainer

The *Biofeedback/Relaxation Trainer* writes and records audio tapes, designed for use in learning. The trainer utilizes special relaxation techniques, guided imagery, rhythmic breathing, foreground and background sounds, etc. She attends weekly staff meetings and involves teachers in the processes of *relaxation training* , *guided imagery* , and special *cognitive skills training, stress management, body awareness* , and *quieting techniques* to enable them to teach these skills more effectively. Since the teachers are central figures in this social system, it is very important thay they understand from firsthand experience the efficiency of active learning, multiple uses of imagery, and a range of recall techniques. Summarily, they teach from the conviction of personal utilization.

Students and Trainer

The teachers consult with the trainer about problems with youngsters relevant to relaxation effectiveness and a variety of imagery, representational systems, and tension reduction techniques.

While all ISC students receive the training described, some require further individual biofeedback training. Those students for whom biofeedback is most often indicated are those new to the program, those for whom group relaxation is difficult, and certain group leaders.

Vicki A. Jones, Biofeedback Trainer

Vicki Jones is part of a consulting team serving Alief Independent School District, Belhaven Hospital, and Kerrville State Hospital. She has co-directed stress management and relaxation training seminars for business and professional groups in Houston. Since beginning her clinical practice with Consulting Psychological Services in 1973, she has been involved with both inpatient and outpatient training and didactic work for biofeedback trainers from educational, hospital, and clinical settings. Her professional memberships include Biofeedback Society of America (BSA), where she has attended presentations of papers on current research and applications of biofeedback since 1975; Biofeedback Society of Texas (BST); Biofeedback Society of Harris County (BSHC) as a Board member; and the Society for Accelerative Learning and Teaching (SALT). She gave an invited presentation to SALT at Iowa State University in 1979. Her most recent presentation was to BSHC. She completed undergraduate studies at Texas Christian University (*cum laude* , 1964). She has been trained at the University of Texas Health Science Center at San Antonio (AMA accredited), 1976; BSA Workshop for Professionals (AMA accredited), 1978; Behavior Therapy Workshop with Joseph Wolpe, M.D.; Rational Emotive Therapy Workshop with Albert Ellis, Ph.D.; and Neuro-Linguistic Programming Workshop, 1980, etc. Graduate studies have been primarily in the health sciences and behavioral medicine continuing education programs.

SCENE: BIOFEEDBACK/RELAXATION TRAINER AND TEACHERS AT WEEKLY STAFF MEETING

#1 TEACHER at Staff Meeting

" *I wasn't sure about R.T. at first. . .now I am.* "

TRAINER:

" *What happened?* "

#1 TEACHER:

" *I began sleeping all night. . .instead of four hours. . .when we started R.T. every day.* "

#2 TEACHER:

" *I get rid of headaches all the time using relaxation . . .*"

#3 TEACHER:

" *When I use relaxation before jogging, I can go farther, easier. . .* "

Outreach Services

Two *Social Workers* provide a family counseling service. Their approaches include skills and experience in perceiving family dynamics, significant communications, patterns of relating, and problem areas in family constellations. When appropriate, they carry their skills into the student's home and, on this familiar ground, furnish support counseling, notably in serious crises that appear to require extended casework. They have provided courses to train parents and staff in Effective Parenting techniques.

CLOSING NOTE TO READER:

The Alief Independent School District has gained about 1,000 students each year since the ISC has been in existence. The population has grown from approximately 8,000 in 1974 to over 14,000 in 1980. Only a few forward-looking administrations could plan contingencies for such growth, and promote a policy to utilize the latest concepts and techniques to uphold high educational standards, and would establish and maintain an ongoing, developing Alternative Education Program as represented at the Individualized Study Center.

Given a 6 year history, a significant turnover in teachers, the emerging ISC social structure is flexible enough to respond to changing student-teacher needs. As this developmental process continues, with an attitude of flexibility further reinforced by continued encouraging results, this program indicates even more possibilities of becoming increasingly effective as a viable educational alternative and community resource.

Reading List

(Selected, partial, updated)

Many of the works listed are very complex; however, the *themes* from these writings that *we* wish to *emphasize here* are reflected in the groupings below.

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NEW STUDENT TO INTERVIEWER:

" I don't have friends. . .
at school. . .not in with. . .
jocks. . .not average. . .
My friends are. . .around. . .
I meet them. . .mess around. . . "

TEACHER:

" You remember _______________,
who was here 2 years ago. . .
when he left here to go back. . .
even his mother said he wouldn't
make it. . .you know what. . .
he's a teacher's aide and he's
on a tennis team. . .
There's no telling what these
kids can do. . . "

SOME FOLLOW-UP ON FORMER ISC STUDENTS:

Spring 1980 - Just under 90% of the 1978-79 full-time students' families were contacted, and their report is that approximately 85% of the students were back into "regular school" or took GED's and were holding "regular jobs".

In 1978, 29% of the ISC 1975-76 tenth grade students graduated (as contrasted with 19% in other known local programs).

In just over 6 years, three former ISC students are known to have gone to a penitentiary for 1-3 years.

Violent deaths have occurred to 4:

2 in automobiles
1 on motorcycle
1 by gunfire

The majority have gone on to acceptable adjustments as citizens.

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Le Centre pour l'instruction individuelle: Un programme d'éducation alternatif

Ceci constitue un rapport plus long et revisé d'une présentation faite lors du symposium SALT de 1979 sur un programme alternatif dans une école du Texas; ce programme s'adresse à des étudiants qui ont des problèmes d'ordre scolaire. D'après la philosophie de cette école, il doit y avoir des rapports entre la famille, la société, l'école et l'élève en ce qui concerne les facteurs émotifs et les facultés cognitives. Les professeurs utilisent diverses méthodes et techniques lorsqu'ils travaillent avec les élèves et ont toute raison de croire que l'école réussit dans ses efforts, surtout si on la compare à des écoles conventionnelles où il y a des élèves qui ont des problèmes semblables.

Das individualisierte Lernzentrum: ein alternatives Bildungsprogramm

Dies ist ein erweiterter und auf den neuesten Stand gebrachten Bericht einer Vorlesung, welche bei der SALT Tagung 1979 gehalten wurde, der sich um eine alternative Schule für Kinder mit Schwierigkeiten handelt. Die Philosophie der Schule handelt von der komplexen Wechselwirkung der familienhaften, gesellschaftlichen, gefühlsmäßigen-kognitiven Faktoren in Schulen und Schülern. Die Mitarbeiter verwenden verschiedene Methoden in der Arbeit mit den Schülern und glauben, daß die Schule im Vergleich zu konventionellen Schulen, wo mit ähnlichen Schülern gearbeitet wird, ziemlich erfolgreich ist.

El Centro de Estudio Individualizado: Un Programa Alternativo de Educación

Este es un informe más extenso y actualizado de la presentación dada en la Conferencia de SALT de 1979 sobre una escuela (con un currículum diferente) en Tejas para los alumnos con problemas. La filosofía de la escuela trata de una compleja interacción de los factores familiares, sociales, escolares y cognitivos-emocionales del alumno. Los maestros usan varios métodos y técnicas diferentes en su forma de enseñanza de los alumnos, creen que la escuela tiene mucho éxito cuando se la compara con las escuelas convencionales que enseñan al mismo tipo de alumno.

J. of Society for Accelerative Learning and Teaching, 1980, 5(3)

Consciousness, Psychology, and Education: A Speculative Essay

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Abstract

This outline of the psychology of consciousness and some of its educational implications illustrates consciousness *psychology* only. There are also consciousness sociology, consciousness philosophy, consciousness anthropology, consciousness biology, and so forth. We are not taking part in a paradigm shift of only one field. Our understanding of mind is changing, and when that changes, every study of the mind changes. All disciplines and applied fields use the human mind. What will happen to them if we discover that we can do new and different things with this omnipresent tool of intellectual effort? These differences alter the nature of the sciences, scientific practices, and many of the assumptions they rest on. When assumptions of any field change, so do the contents of courses in that field and its implications for education and for other institutions. What might happen in educational philosophy, sociology, and so forth?

What if knowing, perceiving, and thinking turn out to vary from one state of consciousness to another? What if truth *itself* changes from state to state? What profound questions does the psychology of consciousness raise for our minds about our minds? I hope this essay will provoke you to think about these questions.

At first glance, the psychology of consciousness seems esoteric and far removed from educational theory and practice. What interest could different states of consciousness, paranormal phenomena, mystical experiences, dreams and associated phenomena, psychic healing, and other rare or unusual abilities have for the ordinary classroom teacher or counselor? What light could be shed on learning and teaching, on policy and practices? On closer examination the implications of the psychology of consciousness for these and many more topics look immense in both impact and opportunity. The consciousness education model presented here illustrates some ways this psychology can be applied in education, counseling, and research.

The Psychology of Consciousness

The psychology of consciousness studies the relationships among behavior, experience, and states of consciousness . As it is used here, "consciousness" means an overall pattern of mental functioning at any given time. (See below for elaboration on this use.) Typical Western approaches to consciousness recognize only three states 1) waking, 2) sleeping, 3) dreaming. While these three are also recognized in the psychology of consciousness, they are seen as overly broad and

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Time, events, or the unaided individual action of the mind will sometimes undermine or destroy an opinion without any outward sign of change.... No conspiracy has been formed to make war on it, but its followers one by one noiselessly secede. As its opponents remain mute or only interchange their thoughts by stealth, they are themselves unaware for a long period that a great revolution has actually been effected.

Alexis de Tocqueville

One of the things that is happening all over the world today is a bubbling up of interest everywhere in all the extraordinary and special gifts that we find in some human beings... This mosaic appears to be diverse. Yet underneath is a common assumption about human nature: that the exploration of consciousness is vital to further human development and survival.

My View of Human Nature

Margaret Mead

probably include several more specific states each. Additional states and substates are recognized by most psychologies which have made a point of studying them. Some of these are described by Metzner in *Maps of Consciousness* (1971), Tart in *Transpersonal Psychologies* (1975), Fadiman and Frager in *Personality and Personal Growth* (1976). It is beyond the scope of this paper to discuss these here other than to note that there may be hundreds or thousands of states.

By looking at both behavior and experience the psychology of consciousness accepts both objective behavior observable to an outside observer and subjective, inner experience. It assumes that a complete psychology must study all human experience, both inner and outer. This gives it the strength of a larger data base and a larger number of variables for research.

New Mindview . Consciousness psychology is distinctive and exciting because it recognizes states of consciousness and human abilities that have not been recognized by most Western psychological theories. One of these is the transpersonal aspect of human nature. Many psychologists, educators, and therapists, perceive the development of the person, (or of self, ego, personality, identity, or individuality) as the goal of their work. Certainly this is a good goal and should be encouraged, but these therapies, because of their emphasis on the person have been unable or unwilling to perceive that human existence and the human mind go far beyond the personal. Transpersonal studies, on the other hand, recognize both the personal and the beyond-the-personal parts of human experience. The transpersonal nature is elaborated on several places below.

From a psychoanalytic perspective, the unconscious has always been recognized; but from a consciousness perspective, the traditional psychoanalytic view of the unconscious is a narrow slice of a much larger field. Various psychologies of consciousness see the individual unconscious as going back to birth and before and also see a collective unconscious extending beyond the person (self, individual, ego, or personality). These transpersonal psychologies run contrary to most of the assumptions of Western psychology and education (e.g., Tart 1975, Grof 1976). However, transpersonal psychologists assert that new and renewed scientific methods make it possible to explore these areas carefully, systematically, and reliably (Walsh and Vaughan, 1980).

Typical topics studied in the psychology of consciousness are states of consciousness (e.g., ecstasy, dreams, drug states) and ways of producing them (e.g., hypnosis, deep relaxation, meditation). An unresolved problem is confusion between states *per se* and the way(s) of producing them. For example, "hypnotic state" and "meditative state" describe methods of achieving states rather than naming the states themselves. Since it is likely that some states, (e.g., ecstasy) can be produced by several methods, this problem remains to be clarified. The literature on states of consciousness is large; the *Journal of Altered States of Consciousness* specializes in this topic, and *Brain/Mind Bulletin* often reports on them too.

A particularly knotty problem is clearly distinguishing one state from another. Tart suggests a felt shift in the quality of consciousness which is accompanied by a shift in the mixture of the 10 subsystems which compose a state of consciousness (see below). Such a shift might be subjectively felt or objectively observed. Other possibilities include the appearance or disappearance of a capacity, a marked change in a capacity (such as memory), or a change in physiological correlates. At this point, a good policy for working on this problem seems to be a com-

...creativity, fantasy, direct feeling, immediacy of experience, openness to the sensual, biological and animal, capacity to full sexual enjoyment or easy childbirth, ability to play, humor, adult childishness, even the ability to sleep and dream ... all require an ego which can leave the stage.

The Dictatorship of the Ego

Kenneth Keniston

Subjective mental phenomena can no longer be written off and ignored in objective explanations and models of cerebral functions, and mind and consciousness become reinstated into the domain of science from which they have been largely excluded since the advent of behaviorism and dialectic materialism.

Roger W. Sperry

bination of theoretical and applied approaches because theory and practice offer broader data than either alone, and eventually they should agree with each other.

Social and Intellectual Background . Where did transpersonal and consciousness views of human nature start? They go back thousands of years and are part of most religious traditions. Recent interest was sparked by the work of Abraham Maslow. In his later works, he talked about a stage beyond self-actualization, transcendence of the ego (Roberts, 1978). In studying this realm, Maslow entered the area of consciousness, and in his later years was interested in the psychology of consciousness and transpersonal psychology, one of its subfields. From a theoretical perspective, the main points to notice are: 1) transcendence is a need above and beyond self-actualization; 2) we have a natural, healthy, human desire to ascend the needs hierarchy, including climbing to self-actualization and beyond self-actualization to transcendence.

In 1969 Tart's *Altered States of Consciousness* anthologized 35 papers on a wide variety of states and illustrated that a coherent area of study could be woven from these diverse threads. Tart challenged psychology:

> The most important obligation of any science is that its descriptive and theoretical language embraces [illegible] the phenomena of its subject matter; the data from (altered states of consciousness) cannot be ignored if we are to develop a comprehensive psychology. (p. 5)

Tart's challenge is being taken up by consciousness psychologists, educators, and therapists. Most recently the works of Grof (1976, 1977, 1979) have explored transpersonal and consciousness psychologies and begun mapping parts of the mind that are still taboo to many Western psychologists. Meeting all the criteria for a new paradigm (reproducible anomalies, broader theory, new research methods, and new problems to solve), Grof's research may be as influential in Twenty-first Century thought as Freud's in Twentieth Century thought. (See *Liberal Education* below).

Education and Therapy . The development of healthy approaches toward exploring and developing consciousness adds two new kinds of goals and roles to educators' and counselors' jobs. In addition to helping students and clients actualize or self-actualize, we have a new goal: transpersonal actualization. This involves the development of the parts of the personality that go beyond the self, beyond the personality, and beyond the ego. A second new job for these professionals is helping people explore and develop consciousness in healthy ways. Unfortunately, we often force this natural desire into the unconscious, to re-emerge later in unhealthy self-destructive and socially destructive ways. Suddenly, there is a whole new domain for educators and mental health professionals.

In keeping with the assumption that we have natural desires to explore consciousness and experience transcendence, we see a public fascination with consciousness in the emergence of a new version of the hero archetype, the Consciousness Explorer. In *2001: Space Odessey* , the hero explores his consciousness at the end of his journey; he goes forward and backward in time and space. In *Star Wars, Close Encounters of the Third Kind, Star Trek* , and many other shows, the explora-

I should say also that I consider Humanistic, Third Force Psychology to be transitional, a preparation for a still "higher" Fourth Psychology, transpersonal, transhuman, centered in the cosmos rather than in human needs and interest, going beyond humanness, identity, self-actualization and the like.

Abraham Maslow

Toward a Psychology of Being

When reason rules, then dreams and prophecies, psychic insights and unconscious forces go underground and fester. Rationalism's success in cutting off access to our deep psychic and spiritual dimensions suppressed half our life. And suppression proverbially acts like the unrelieved pressure cooker. Sooner or later it blows up. It may well be that the holocausts of the twenthieth century--the irrational rages of persons and nations, the closed and malevolent political systems, the "authorized" killing of millions-is partly the direct result of the rationalizing zeitgeist which relegated one half of human nature to the subconscious stockpile where it spawned hot house chimeras before emerging again through the back door onto the playing fields of history, seeding the world with chaos and the demonic.

Jean Houston

Myth, Consciousness, and Psychic Research tion of time, space, and identity excites us, and millions of viewers around the world see these shows time and time again. The Consciousness Explorer appears in the writings of Timothy Leary, Stanislav Grof, Carlos Casteneda and Don Juan, Aldous Huxley, John Lilly, Jean Houston and Robert Masters, often in the guise of medicinemen or shamen (Halifax, 1979). Researchers in the occult, the supernatural, and psychic phenomena, are Consciousness Explorer heroes. One of our duties as persons, parents, and professionals is to encourage the responsible exploration of these consciousness areas, sometimes called "inner exploration" or "inner frontiers."

In the late 1970's, the psychology of consciousness expanded from a small field with a few anomalous interests into a major approach to psychology. Most introductory college psychology texts now have chapters on consciousness (e.g., Bourne & Ekstrand; Hilgard, Atkinson & Atkinson; Kagan & Havemann; Krech, Crutchfield & Livson; Zimbardo & Ruch). Courses and research in the psychology of consciousness and related topics are being taught at many colleges and universities in the United States, Canada, and abroad (Jahn, 1978; Association for Transpersonal Psychology, 1979; *Brain/Mind Bulletin*, 1975+). These courses are not limited to psychology departments, but also appear in engineering, philosophy, religion, education, biology, anthropology, and sociology. A number of institutes specially set up to study this area and related areas have been founded. Professional organizations are also beginning to express interest in consciousness and its cognate fields with topical issues of publications, symposia, and/or special interest groups/divisions. These include the American Association for the Advancement of Science, American Psychological Association, Phi Delta Kappan Educational Foundation, SAGE Foundation, American Personnel and Guidance Association, and the American Educational Research Association. (1)

Footnote 1

At its recent annual meetings, AAAS has presented symposia on consciousness (e.g., Lee et al., 1976) and has accepted some parapsychologists as affiliate members since 1969. The American Psychological Association includes transpersonal as a category of major interest for its members as well as a specialty within therapy. An APA division or special interest group is being formed: c/o Dr. Mary Joe Meadow, Department of Clinical Psychology, Mankato State University, Mankato, Minnesota. Among foundations Phi Delta Kappan Educational Foundation and SAGE Foundation have both published in transpersonal/consciousness education (Roberts and Clark, 1975; Fletcher, 1977). Two topical journal issues on consciousness counseling have been published by subgroups of the American Personnel and Guidance Association: *Counseling and Values'* February 1975 issue was devoted to transpersonal counseling, and *Elementary School Guidance and Counseling's* Fall, 1979 issue was on holistic health, wellness, and transpersonal helping. The American Educational Research Association has a Mind/Body Special Interest Group, which includes consciousness studies

Is the human species evolving in new ways more suitable of transcending our present culture? Perhaps. There seems to be meaning in the development of our greater self-awareness, in the realization of our potential strength and power, in our ability to control our neurological functions, in our capacity to form close and harmonious communities, in our recognition that the peak of scientific knowledge is similar to the peak of mysticism, some meaning in our expansion into alternate states of consciousness, to our growing use of psychic forces and psychic energy.

Some New Directions -- A Personal View

Carl Rogers

Reason, or the ratio of all we have already known, is not the same that it shall be when we know more.

William Blake

as they apply to education (Dr. Marianne DeVoe, 1709 Split Ridge Road, Knoxville, TN 37922).

Fletcher, J. L. (ed.) *Simulation and Games* Vol. 8, No. 1, March 1977. Reprinted as *Human Growth Games: Explorations and Research Prospects* . SAGE Contemporary Social Science Issues #41. Beverly Hills, Calif.: SAGE Publications, 1978.

Roberts, T. B. & Vaughan, F. *Transpersonal Psychology in Education* . Fastback Series #53. Phi Delta Kappan Educational Foundation, Bloomington, Indiana, 1975.

These flirtations with consciousness studies, even those with an educational emphasis, have examined only specific topics. Fragments of theory, anecdotes, descriptions, and research abound, but they are for the most part only tangentially related to each other. An overall paradigm is lacking. An integrated and coherent model of consciousness education is needed to promote further research and development on the educational implications of the psychology of consciousness.

Consciousness Studies

For the purpose of brevity, I refer to all these fields simply as the "psychology of consciousness," "consciousness studies," or "consciousness education." Consciousness studies attempt, among other things, to study the layers of mind where thinking originates. They are interdisciplinary; one might even say "pre-disciplinary." Historically, many of the topics that fall within the range of consciousness studies have been considered outside the realm of scientific endeavors and not open to investigation. Recently, this has changed dramatically. Consciousness studies are bringing established scientific methodology to areas which until recently had been beyond their boundaries and are developing new methods specifically to study consciousness. In a very real sense, the realm of science is being expanded to include states of consciousness and related phenomena.

As science expands, so does education. What implications does this new science have for schools, counselors, and child development? This enlarged scientific understanding can result in increased understanding of human learning and culture. It has happened for half a dozen psychologies before, leading us to expect the same from the psychology of consciousness.

Brain Hemispheres and Consciousness . We are told that the left (linear, logical, analytic) hemisphere of the brain is predominantly conscious and that the right (visual, spacial, pattern-seeing) hemisphere is predominantly unconscious. This may be an accurate description for now, but not necessarily the way things always must be. One can think about this difference in another way; not as an unchangeable given state, but as a report about our current progress on making parts of our brain and their functions conscious.

Suppose that both hemispheres were largely unconscious some time in humanity's past. Then, for some reason, consciousness developed in the left hemisphere, giving rise to our great mathematics, philosophy, medicine, technology, and so forth. From this view, we have only just begun the job of expanding consciousness throughout the brain.

This oceanic feeling of wonder is the common source of religious mysticism, of pure science and art for art's sake; it is their common denominator and emotional bond.

The Act of Creation

Arthur Koestler

Rational consciousness ... is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different. We may go through life without suspecting their existence; but apply the requisite stimulus, and at a touch they are there in all their completeness. No account of the universe in its totality can be final which leaves these other forms of consciousness quite disregarded. How to regard them is the question--for they are so discontinuous with ordinary consciousness. Yet they may determine attitudes though they cannot furnish formulas, and open a region through which they fail to give a map. At any rate, they forbid a premature closing of our accounts with reality.

William James

The Varieties of Religious Experience

Is the right hemisphere by nature largely unconscious, or is it that way because our culture has neglected it? Now we are on the trail of exploring the right hemisphere, of making it conscious through dance, art, music, visualization, by using some of the transpersonal and consciousness ways of growing. What new accomplishments, potentials and capacities may come from exploring the right hemisphere? What will happen as we expand our consciousness into the visual-spacial-atemporal domains that are reached through the right hemisphere? Abstract reasoning and all its fruits are skills we have developed by making the left hemisphere conscious. Are we on the verge of discovering the analogous right hemisphere skills?

It matters little whether the so-called "right hemisphere" abilities are in the right cerebral hemisphere or not. They might just as well be in the right ear, elbow, or toe. The most important thing about left/right hemisphere studies is that they draw attention to neglected areas of the human brain and to the skills that remain there to be nourished. This nourishment is part of consciousness education. When humanity first intentionally began to develop left hemisphere skills, who could have dreamed of the magic of our technology? After we learn to make the right hemisphere conscious, will we then start on the conscious control of the rest of the brain? What undreamed of benefits remain to be realized there?

Finally, when considering right hemisphere development and consciousness education, an important distinction must be made. Access to "right hemisphere" abilities can be in our ordinary state or can be via switching state of consciousness. In fact, fascinating research questions arise if we look at right/left hemisphere studies from a consciousness perspective. How do right/left abilities vary from state to state? Are the differences we've found so far just those of our ordinary state? Will other hemispheric differences and similarities emerge as we study other states of consciousness? Can we teach the hemispheres to work alternately or simultaneously on a task?

3 R's on the Right . So far the evidence indicates that "right-hemisphere" learning both opens up right-hemisphere abilities and assists left-hemisphere learning. Seldom distinguishing among transpersonal, consciousness, and right-hemisphere psychologies, educators have been quick to apply these fields (e.g., Hendricks and Wills, 1975; Hendricks and Fadiman, 1976; Hendricks and Roberts, 1977; Roberts, 1975; Roberts and Clark, 1975; Buzan, 1976; Samples, Charles, and Barnhart, 1977; Edwards, 1979; Ostander and Schroeder, 1979; Rozman, 1975; *Brain-/Mind Bulletin* , 1975+). The list could be many times as long. Hendricks and Roberts (1977) list over 1200 items in a bibliography on transpersonal/consciousness education, ranging from esoteric religious education to biofeedback conditioning. While the results are almost uniformly good (in fact, some are amazing, "Education Theme Packs," *Brain/Mind Bulletin* , 1977, 1978, 1979; Ferguson, 1980) their anecodotal and descriptive natures indicate exciting and valuable contributions yet to be made by future educational researchers. A bibliography of consciousness education since 1977 could well exceed the Hendricks-Roberts list.

Perhaps some day we will speak of the "3 R's" of the right hemisphere:

Relaxation (allowing the mind and body to work on their own without our interference)

Receptivity (allowing us to perceive more fully things going on outside our bodies as well as in them and in our minds)

Release (temporarily setting aside the left hemisphere's critical analyzing and the ego's incessant demand to dominate).

The words of the language, as they are written or spoken, do not seem to play any role in my mechanism of thought. The physical entities which seem to serve as elements of thought are certain signs and more or less clear images which can be "voluntarily" reproduced and combined ... Taken from a psychological viewpoint, this combinatory play seems to be the essential feature in productive thought — before there is any connection with logical construction in words or other kinds of signs which can be communicated to others.

Albert Einstein

Since psychology is basic to education in the same way that biology is to medicine, a revolution in psychology usually foreshadows a revolution in education.

The Affective Domain and Beyond

Robert Kantor

Hemispheric education is but one input into consciousness education. Its early acceptance and successes may predict additional benefits from other sources. The combination of hemispheric research and biofeedback conditioning is an excellent way to introduce current educators to the whole field of consciousness education because physiology and behavioral conditioning are already parts of the current paradigm. Their tastes are familiar; we feel at home with them.

But, when they are used to produce different patterns of mental functioning we step from a traditional physiological-behavioral paradigm to a consciousness paradigm. Brainwave training illustrates this transition. Much research supports the idea that creativity is enhanced in certain states of consciousness. At the Menniger Foundation biofeedback researchers Elmer and Alyce Green found they could teach people to change their state of consciousness by slowing the activity of their hemispheres (1977). Their subjects learned to produce a very relaxed reverie state, the theta state. This might appear to be a mere curiosity until one looks at the history of creative problem solving. Most creative insights in the sciences and mathematics occur in a relaxed, free-floating state. We often focus on differences between science and art, but they both rely on these creative insights for their advancement. Have the Greens hit on a way to enhance creativity using an electroencephalograph? Here is an example of how advanced, left-hemispheric technology can support creative (right-hemisphere?) abilities.

Presumably, states of consciousness give access to many abilities. Some are associated with the right cerebral hemisphere. Others are not. One should not confuse the much larger psychology of consciousness with the more specific left/right hemisphere studies. Limiting "consciousness education" to the education of the intuitive mode or domain is to confuse proboscis with pachyderm.

A Model of Consciousness Education

Consciousness education regards the development of our full range of states of consciousness as a goal of education. This includes our current abilities, abilities which are rare but sometimes apparent (such as psychic abilities, the placebo ability, and parapsychological abilities), and it also includes the possibility that there are other unknown capacities which we have yet to discover and yet to develop.

Liberal education, as the name indicates, is an education to free people. There is an additional freedom for liberal education to teach if one looks at it from the point of view of states of consciousness. Freedom is not only freedom to pursue intellectual questions wherever they may lead, or the freedom that comes from a fully developed intellect, or the freedom that comes from being able to know and control one's emotions. A new type of freedom is showing itself. This is the freedom to select one's states of consciousness, the freedom to go from one state to another and to develop oneself in all states. The idea of liberal education from a consciousness perspective goes far beyond the area of intellect. It certainly includes developing a fine intellect, but there are nonintellectual qualities and abilities of the mind, for example, fantasizing, dreaming, sensing, and intuiting. There are also states of consciousness in which intellect plays a different function; when dreaming, for example, we think visually using association, and allow contradictory situations. If we are to develop the intellect fully, we must develop it fully in all states. If we are to have truly free minds, we must have minds which do not wear the intellect as an albatross. However, this does not mean that conscious-

Obscurantism is the refusal to speculate freely on the limitations of traditional methods. It is more than that: it is the negation of the importance of such speculation, the insistence on incidental dangers... Today scientific methods are dominant, and scientists are the obscurantists.

Alfred North Whitehead

Meditation, reverie, relaxation, and other assorted psychotechnologies tend to increase the slower, *larger* brainwaves known as alpha and theta. Inward attention, in other words, generates a larger fluctuation in the brain. *In altered states of consciousness, fluctuations may reach a critical level, large enough to provoke the shift into a higher level of organization* .

The Aquarian Conspiracy

Marilyn Ferguson

ness education is anti-intellectual. It is very clearly pro-intellectual because it wants us to develop all of our abilities, including the intellectual ones. To be truly free, we would have to develop all our abilities and all our states of consciousness.

Assumptions

The following are the main assumptions of a preliminary model of consciousness education and consciousness studies.

1. "Consciousness" as it is used here means "a pattern, an overall style of mental functioning at any given time."

2. States of consciousness are systems composed of 12 subsystems. Each of these subsystems can be developed as a domain of education.

3. As one learns to control and use these domains, one learns to compose or produce desired states of consciousness voluntarily. This is called expanding consciousness.

4. Human abilities and disabilities reside in one or several states of consciousness. Each ability and disability is stronger in some states of consciousness and weaker, or nonexistent, in others.

5. As one learns to select one's state of consciousness, one increases the number of abilities and skills one can learn, develop, and use. The more states of consciousness one can produce the more capacities one has available.

6. A fully educated person can select the appropriate state of consciousness for his/her purpose, voluntarily enter it, and use and develop the abilities that reside there. From a curricular perspective, we can call this the Curriculum for Voluntary Control of States of Consciousness, or "Consciousness Curriculum."

Consciousness

> "Consciousness" as it is used here means "a pattern, an overall style of mental functioning at any given time."

Because the term *consciousness* is used in a variety of ways, some very vague and ambiguous, it is helpful to clarify its use in this context. Here *consciousness* means "a pattern, an organizational style of one's overall mental functioning at any given time," (Tart, 1975). This definition excludes many common uses of the term *consciousness* . As used here, it does not mean "conscious" as distinguished from being unconscious, as in a coma or asleep. It does not mean "aware of oneself" as in "He became conscious of his own ability to think," nor does it mean "conscious" in the sense of "self-aware." (2) Another use excluded here is found in economics and political science: the feelings or thoughts of a group, as "women's consciousnesss" or "proletarian consciousness." As used here *consciousness* does not simply mean what happens to be on one's mind, as one might say that people from Denver are very conscious of their football team, the Broncos.

Tart's definition of consciousness as a system composed of 10 subsystems lends itself easily to educational applications. However, other definitions of consciousness which emphasize other psychological compo-

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Interoception

The kingdom of God cometh not with observation: ... The kingdom of God is within you.

Luke, XVII, 20-21

		Sensing	Intuitive
671	finalists for Nat'l Merit scholarships	17%	83%
3676	freshmen at Ivy League colleges	41%	59%
3503	academic 11th and 12th graders, PA high schools	58%	42%
1403	non-academic 11th and 12th graders, PA high schools	85%	15%
500	adults who did not finish 8th grade	99.6%	0.4%

Taking Type into Account in Education

Isabel Briggs Meyers

nents may give rise to alternate theories of consciousness education. Different maps of consciousness such as those collected by Ralph Metzner in *Maps of Consciousness* (1971) suggest parallel theories of consciousness, each with its own psychological components, theory of education, and domains. Developing alternate models and comparing them remains a task for psychologists and educators of the future. Should education and therapy use what is known now or wait for a fully articulated psychology of consciousness before changing their practices?

It seems appropriate to employ a practice-based strategy of working with this definition of consciousness or with several others by attempting to apply them to education now rather than waiting for a definition of consciousness to be fully developed and generally accepted by large numbers of professionals. For one thing, general agreement is not likely to be achieved soon, if ever. More importantly, attempts to apply theories of consciousness will very quickly show us theoretical weaknesses and strengths. For another, a prototype is always handy, and one can never be sure that a blueprint or design is practical until it is tried, tested, improved, and retested. Perhaps, some of the domains listed under the next assumption will be successfully collapsed into one. Others may be added. Finally, professionals in education, therapy, and medicine (holistic medicine) are already using consciousness techniques. In many parts of consciousness studies practice far antedates theory. The current concepts of states of consciousness and the human abilities, actions, behaviors, and experiences they entail are probably best researched through experimental research and experiential development. Their usefulness or lack of it will be seen faster in a combination of practice and theory than by either theory or practice alone.

2) Piaget's and Freire's uses of "consciousness" should not be confused with its use here. The Brazilian sees several types of consciousness, for example magic consciousness, naive consciousness, and critical consciousness; these different styles of thinking are important because '... to every understanding, sooner or later an action corresponds." (p. 44) The Swiss with his mathematician's and logician's emphasis on thinking, uses "consciousness' to mean the cognizance that takes place when a previously unconscious way of acting becomes conscious. A new, conscious concept replaces the old, unconscious action scheme. With their emphasis on types of thinking, both Friere and Piaget apply the word "consciousness" to types of cognition, rather than applying it to the larger, overall pattern of mental functioning, cognition being part of this whole.

Freire, P. *Education for Critical Consciousness* . A Continuum Book. New York: Seabury, 1973.

Piaget, J. *The Grasp of Consciousness* . Cambridge, Mass.: Harvard University Press, 1976.

Figure 1

Bloom's Domains

State of Consciousness	Cognitive	Affective	Psychomotor
Waking			

Figure 2

Consciousness Domains

STATE OF CONSCIOUSNESS	Exteroception	Interoception	Input Processing	Memory	Cognition	Emotion	Motor Output	Intuition	Identity	Time Sense	Moral Sense	Environment
Waking State(s)					▨	▨	▨					
Sleep State(s)												
Reverie												
Meditation State(s)												
Etc.												

Subsystems— Redomaining

States of consciousness are systems composed of 12 sub-systems. Each of these subsystems can be developed as a domain of education.

In *States of Consciousness* Tart sees a state of consciousness as a system composed of 10 interacting subsystems. A particular combination or "recipe" of subsystems is a particular "state of consciousness." These are subsystems in the sense that when one of them changes, it is likely to influence the others to change, too. For instance, in any state of consciousness, changing the interaction with the environment is likely to change motor output, memory, and cognitive processing as well. Operating together, these subsystems compose a system of consciousness or "state of consciousness." I have added "Intuition" as number 8 and "Moral Sense" as number 11. The reasons for adding them are too extensive to cover here other than to point out that they seem to be basic psychological components which vary from state to state. The twelve subsystems which compose a state of consciousness according to this view adapted from Tart are:

1) exteroception - sensing the external world;
2) interoception - sensing inside the body;
3) input processing - what we do with the sensations;
4) memory;
5) cognition;
6) emotion;
7) motor output;
8) intuition;
9) identity;
10) time sense;
11) moral sense, and
12) interaction with the environment.

It is beyond the scope of this article to describe and discuss these domains. More information on them is available in Tart's *States of Consciousness* .

Many people have difficulty understanding consciousness education because they think only in terms of the cognitive, affective, and psychomotor domains. This view does not eliminate the current three domains. Along with nine new ones, they are included. Consciousness education includes the cognitive subsystem, which is the counterpart of Bloom's cognitive domain; an emotional subsystem, counterpart of the affective domain; and the motor output subsystem, which corresponds to the psychomotor domain. By proposing an additional nine domains, consciousness education allows educators to assimilate the idea of new domains into their current conceptual framework of domains and, at the same time, accomodate new possibilities for education.

Redomaining . Moving from our current 3 domains to the 12 consciousness domains exemplifies "redomaining." By making separate educational domains for each psychological subsystem, we open the

...some 70 million Americans have had some sort of mystical experience, and about 10 million have these experiences frequently. Furthermore, Greeley (*The Sociology of the Paranormal*) found no evidence to support the orthodox belief that frequent mystical experiences or psychic experiences stem from deprivation or psychopathology. His "mystics" were generally better educated, more successful economically, and less racist, and they were rated substantially happier on measures of psychological well-being than those who had not had such experience.

Psi: Scientific Studies of the Psychic Realm

Charles T. Tart

The manifesto of the person...marks one of the great turning points in the human story... We may come to see that tribe, nation, class, social movement, revolutionary masses...that all these have, like shadows that eclipse the sun, gained their existence at the expense of something far brighter and more beautiful: our essential and still unexplored self. And, recognizing that truth, we may seek to replace these "higher" social allegiences with an astonishing ethical propostion– *that all people are created to be persons* and that persons come first, before all collective fictions.

Person/Planet

Theodore Roszak

possibility of learning to develop each domain and eventually orchestrating and composing our own states of consciousness. This is one goal of consciousness education.

Redomaining opens up vast possibilities for future development of education. Figure 1 illustrates a consciousness interpretation of education today.

Current education considers cognitive, affective, and psychomotor domains in our waking state. Our educational practices and research are generally limited to that state, and we have done a good job of creating this state - specific education; although more remains to be done. The waking state and Bloom's three domains form only a small part of the total field of consciousness education.

Figure 2 illustrates consciousness education. The shaded area represents current education. In fact, it probably overrepresents today's approach because the so-called "waking state" is probably a collection of substates that we have not yet learned to differentiate among. For example, we are in error when we combine concentration, day-dreaming, focused awareness, diffuse awareness, physical excitement, emotional excitement, and other states into the one category "awake."

Revaluing Research . Retaining its current importance, research which has already been done picks up additional significance. First, it becomes embedded in a larger matrix, giving it new meanings as part of a broader theoretical framework. Work already done on the cognitive, affective, and psychomotor domains represents progress we have already made in developing consciousness education. Second, we can use research skills developed for our current three domains and for the waking state as beginnings for exploring other states. Our established research, measurement, and evaluation skills are lying in wait to be used on other domains in the waking state(s) and in other states. To what degree are they applicable/inapplicable? What new instruments and research skills need to be developed?

An example of the extension of current research methods to a new area is William Richards' dissertation *Peak Experiences, Counseling, and the Human Encounter with Death* . Richards developed a questionnaire to measure the intensity of mystical experiences ("peak-experiences"). The *Psychedelic Experience Questionnaire* extends the use of self-report questionnaires into the mystical state of consciousness. Furthermore, he showed that improved clinical behavior in terminal cancer patients (lower dosages of pain killers, lower specific fear of death and general anxiety, less depression, and more honest and meaningful communication with family and friends) was associated with intense peak experiences:

> The data also suggested a correlation between the occurrence of a psychedelic peak experience...and the amount of clinical improvement. Six of the 22 patients had what was judged to be an intense peak experience under LSD and of these 5 were the patients who later improved most dramatically. (Pahnke, *et al* 1969).

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Figure 3

STANDARD RESEARCH QUESTIONS

DOMAIN	What can be learned/known?	What goals/objectives?	How do age/stage effect these?	How to measure/evaluate?	What methods to teach these?	What place in curriculum?	How do ethnic/other minority groups vary?	Implications for gifted/disabled/etc.?
	Literature search.	Taxonomy for each.	Developmental questions.	Testing/measurement/evaluation questions.	Methods development and research.	Curricular questions.	Sociological questions.	Special education questions
Interoception								
Exteroception								
Input-processing								
Memory								
Cognition								
Emotion								
Motor output								
Intuition								
Identity								
Time sense								
Moral sense								
Interaction with environment								

Combining experience, behavior, and state of consciousness, Richards' work well illustrates that research can be done using a consciousness paradigm. His research also illustrates one challenge that consciousness research presents to psychology and therapy. Conventional psychological wisdom assumes that peak experiences, or mystical experiences, indicate neurosis or psychosis; however, evidence is accumulating that these experiences, far from indicating illness, may be the single most powerful therapeutic event available in the therapist's armamentarium. While it is beyond the scope of this paper to discuss the possibility, one should note that the "new therapies," the transpersonal therapies, make this assumption. Certain aspects of biofeedback training, meditation, drug therapy, and other transpersonal therapies challenge the widely assumed view of the mind held by most professional psychologists, therapists, and educators.

The third and most important contribution of established research to consciousness research are the standard research questions and topics. For example, what objectives are possible in the intuitive domain? How does a student learn to intuit? What ages are best for awakening intuition? Suddenly, educational research has an enormous number of experiences, behaviors, and states to investigate. For each of these all the traditional questions get reasked and many new questions specific to the consciousness paradigm add additional lands to the geography of psychological and educational research.

Expanding Consciousness

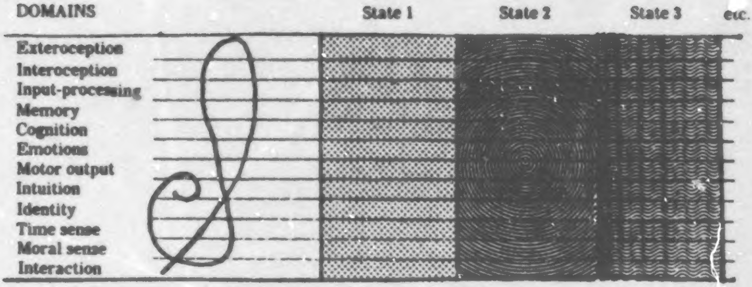
> As one learns to control and use these domains, one learns to compose or produce desired states of consciousness voluntarily. This growth is called expanding consciousness.

In this assumption, *control* means "to take voluntary control of." In some cases this means *releasing* ego control. True control does not prohibit, stifle, or even command, but also includes the ability to give up ego control at the appropriate times and let the mind take its natural course. For example, in the emotional domain, controlling one's emotions does not mean stifling them or not expressing them. At certain times, one may wish not to express his/her emotions, but at other times emotional expression is necessary and desirable. Someone who has full control of the emotions can select the appropriate times and places for emotional expression and the appropriate times not to express them. Since the ego states of consciousness are seen as a subset of all states, control in this broader sense sometimes means control by the ego, and sometimes it means directing the ego to relinquish control.

Music for the Mind . Composing, controlling, and perceiving consciousness are easily understood if we compare consciousness and its 12 subsystems to an orchestra with 12 sections. If we imagine an orchestra divided into twelve sections, we can see that each section is capable of

Figure 4

COMPOSITIONS FOR MIND
IN INFINITE VARIATIONS


DOMAINS
State 1
State 2
State 3
etc.
Exteroception
Interoception
Input-processing
Memory
Cognition
Emotions
Motor output
Intuition
Identity
Time sense
Moral sense
Interaction

Neither by suppression of the material streaming out of the unconscious, out of uncontrolled fancy, dreams, and the byplay of the mind, nor by permanent surrender to the unshaped infinity of the unconscious, but rather through affectionate attention to these hidden sources and only afterward through criticism and selection from that chaos--thus have all the great artists worked.

Hermann Hesse

variation within itself, possibly great variation, but each section is also part of the overall orchestra, just as each subsystem is part of the state of consciousness. Each of the sections can change. We can add more violins or take out cellos.
layers of mind where thinking originates. For flavoring, we can put in more or less timpani, speed them up and slow them down, make them louder or softer, etc. Every time an instrument or section is changed, the feel of the whole music changes. As we learn to play the various subsystems of consciousness, we learn how to compose, play, and orchestrate states of consciousness. Consciousness education teaches us to "play" these psychological subsystems or educational domains.

We might think of a particular type of music such as a waltz as being analogous to a state of consciousness. Among the waltzes there is a great deal of room for creativity, difference, and latitude; however, there are certain characteristics that make music a waltz and not a polka. Just as musical instruments and arrangements have certain specifiable relationships to each other in waltzes, within a state of consciousness the twelve subsystems have certain regular relationships, still leaving room for some variation. For example, within our usual waking state of consciousness, there is room for some variation of the twelve domains.

A state of consciousness specifies certain general rules or relationships, but like a musical genre or style there is still the possibility of movement, change, and variation within those restrictions. When one speaks of a state of consciousness, it does not necessarily mean an exactly prescribed state without any variation. In fact, one of the most intriguing theoretical questions is how to specify the boundaries between states of consciousness. Much work remains to be done here. We may find that one state of consciousness blends into others without a clear demarcation line, just as the colors in the rainbow blend into each other. It is up to us to specify when red becomes orange and perhaps when relaxation becomes sleep. In one sense we might think of consciousness as a twelve-color rainbow with each of the colors blending into all the other colors.

Another example of variety within one state is the dreaming state. We know that there are different sorts of dreams, those that seem to be stimulated by the physical environment, those that take their cue from our internal-biological states, those that are influenced by telepathy or the states of other people, those which seem to have specifically bright colors, those in which color is absent or unimportant, lucid dreams (in which we are aware that we are dreaming), and so forth. Within this state which we broadly call dreaming, there are certain regularities, but within these regularities there is wide latitude for an exciting range of possibilities. As our knowledge of states of consciousness becomes more developed and more specific, we may decide to divide one of our current states into several. Different personality types may subjectively experience their states of consciousness differently. Perhaps we should even

There are two ways to slide easily through life: to believe everything or to doubt everything; both ways save us from thinking.
Alfred Korzybski

Theory does not prevent the facts from existing.
Jean Charcot

invent "consciousness types" similar to "personality types." Much challenging experimental and conceptual research remains to be done.

Tertiary Process Thinking . While most psychoanalytically-oriented psychologists and psychiatrists recognize the difference between magical, childlike, primary process thinking and adult, rational, secondary process thinking, few recognize that there is a type of mental activity which surpasses secondary process thinking. Tertiary process thinking consists of the ability to decide consciously what mode of mental operation, state of consciousness, to use at a particular time. Depending on one's purpose, he/she might decide to use meditation, reverie, linear thinking, holistic-patterned thought, dreams, association, etc. A tertiary process thinker knows about states of consciousness, how to produce them, and how to use them. A tertiary process thinker might also decide to use sensation, intuition, thinking with the body, fantasy, or any number of abilities which until recently had been disdained as "only primary process thinking."

Ego mental functioning tends to be secondary process thinking. As one expands beyond the usual ego functions, one expands into tertiary process thinking. One learns to choose one's pattern of mental activity and to select the most appropriate sequence of patterns. For someone unfamiliar with tertiary process thinking, it is easy to confuse the voluntary control of consciousness with the involuntary lack of control. Primary process and tertiary process are both not secondary process, but that does not make them identical. If a scientist, mathematician, or other creative person *decides* to use dreams or reverie for creative insight, this is primary process thinking in the service of tertiary process thinking.

Why do psychologists and educators fail to recognize tertiary process thinking? Since some tertiary mental activity goes beyond usual ego control, the ego feels threatened and resists this type of activity. The ego rationalizes its resistance to primary and tertiary processes with the mistaken idea that ego development represents optimum human development. Ego development is an important portion of full growth, and secondary process thinking is a valuable skill in our ordinary awake state of consciousness; however, we do a disservice to ourselves and to humanity by limiting our growth to ego development and by limiting our cognitive development to secondary process thinking. With the assumption that we can learn to compose or produce states of consciousness voluntarily, a higher range of mental functioning appears, one that selects and integrates the full range of psychological functions and states of consciousness.

Beyond Piaget . What does tertiary process thinking indicate about intellectual development? According to Swiss psychologist Jean Piaget, intellectual abilities start with sensory-motor learning, having to do only with things that can be sensed. In the second, preoperational stage symbolic thinking develops, and the child learns the difference between words and the objects they represent. Around the ages of 7-11

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Do not confine your children to your own learning, for they were born in another time.

Hebrew Proverb

We now know that altered states of consciousness are characterized by shifts in factors such as perception, cognition, time sense, and body image. However, disabled learners often manifest one or more of these changes in their everyday behavior. We might do well to think of poor learners in terms of the states of consciousness in which they exist and to study the literature for clues as to how learning is best attained for people in those states.

The Influence of Consciousness Research

Stanley Krippner

the child can do activities "in his head" instead of in the concrete world, but he cannot do "formal operations." Finally, between the ages of 12 and 15 adolescents are able to think about thinking and to think about things that are contrary to fact. According to this view, formal operations are the peak of intellectual development.

As a child enters each of these stages, he/she becomes able to surpass the previous stage by subsuming it in his new stage. For example, as the adolescent moves from being able to think only of real objects (or as if things were real objects) in the preoperational stage, he/she learns to think about thinking in the formal operations stage. This includes such new mental abilities as becoming aware of the rules of logic, fallacies, rules of evidence, ways of arguing, etc. At the formal operations stage he embeds concrete operational thinking in formal operational thinking.

Consciousness education asks the question, "Is there a stage (a way of using our minds) that surpasses formal operations?" It answers the question "yes." As one of 12 subsystems, cognition is embedded with 11 other subsystems in states of consciousness, as one learns to produce, control and compose these states, one steps back from the immediacy of formal operations and chooses the overall psychological context, the state of consciousness. It is as if one goes from the fine points of playing a piano to conducting a whole orchestra, piano included.

According to Herbert Koplowitz there is a stage beyond Piaget's abstract, formal relations.
In *Unitary Operations; A Projection Beyond Piaget's Formal Operations Stage* (1978) he proposes post-Formal Operational thought:

> ... the transition to post-Formal Operations brings about a more holistic, less analytic approach to knowledge than that which characterizes Formal Operations. Formal Operational thought is dualistic. It draws sharp distinctions between the knower and the known, between one object (or variable) and another, and between pairs of opposites (e.g., good and bad). In post-Formal Operational thought, the knower is seen as unified with the known, various objects (and variables) are seen as part of a continuum, and opposites are seen as poles of one concept. For this reason "Unitary Operations" is proposed for the post-Formal Operations stage. (p. 32)

From the perspective of consciousness education, formal operational thought, secondary process thinking, and analytic-linear thought are steps along the path of mental growth, as well as valuable skills themselves, but they are not the final goal. One should use the skills of thinking, but not be dependent on them. As one learns to control and use the 12 subsystems of consciousness (to expand consciousness), one learns when to think with formal operations and when not to.

Residence

> Human abilities and disabilities reside in one or several states of consciousness. Each ability and disability is stronger in some states of consciousness and weaker, or nonexistent, in others.

Think globally,
Act locally.

Hazel Henderson

TRANSPERSONAL: It's as American
as chop suey or pizza pie.
Swami Potananda

A human ability may be said to reside within a state of consciousness if someone within that state demonstrates that ability. Because perception is also considered an ability, one's subjective experiences (whether or not verified in other states) are included as abilities too. Current education overwhelmingly educates for, and derives data from, only one state of consciousness--the normal waking state (as illustrated in Figure 1).

Is there any evidence to substantiate the assumption that human abilities "reside" in one or another state of consciousness? Clearly, this is true for at least one ability: memory. It is well known that everything we have perceived (or at least, most of our perceptions) are stored in our memory but that we lack access to them. Hypnosis, fantasy, meditation, dream work, relaxation, mind drugs, biofeedback, electrical brain stimulation, etc.--all can provide access to this storage. What do these all have in common? They all cause an altered state of consciousness. Thus, memory is at least a partial function of state of consciousness; that is, it varies from state to state.

If we compare our other abilities when we are awake, sleeping, or dreaming, it's apparent they are state-dependent, too. A compilation of behavior, capacities, and experiences from state to state would be of immense value for humanity's future, and especially for consciousness education and psychology.

"Abilities and disabilities" refers not only to our currently known human activities, but also to those which we do not generally acknowledge as within the range of human possibility. For example, we should not rule out parapsychological abilities or psychic abilities until we have thoroughly researched these in terms of states of consciousness. Intuition and moral development are also important as abilities. Inner awareness and the capacity for rich and varied subjective experience are additional abilities which need to be developed. Honorton's article "Psi-Conducive States of Awareness" points the way by collecting and summarizing evidence on psychic abilities and their resident states. He associates ESP with inner awareness, "interoception" in terms of the 12 domains of consciousness education:

> Explorations of ESP in dreams, hypnosis, sensory isolation, meditation, and protomeditative practices suggest that psychic communication (or perhaps the ability to detect and recognize psychic influences) is facilitated by an inward focus of awareness (p. 632).

Since many new therapies and new teaching techniques, including biofeedback, develop interoceptive abilities, we can probably expect increased occurrences of ESP in schools, therapy, and our daily lives. For example, while teaching counselors Zen meditation in order to improve their self-actualization and interpersonal awareness, Lesh (1970) unexpectedly found that ESP also occurred.

The link between ESP and altered states of consciousness has been tightened by the doctoral dissertation of Carl Sargent at Cambridge University. Awarded the first doctorate in parapsychology from this presti-

Laws of Supermind

Law One: Human beings possess an innate awareness of the state of their biological being, from the total physical body image down to single cell.

Law Two: Human beings possess an innate ability to form complex, abstract concepts from primal sensory data.

Law Three: Human beings possess an innate ability to exert control over the direction and flow of nerve impulses in any body nerve they choose.

Law Four: The human mind has the innate ability to supervene in and direct the physical activities of every physiological function of the body, within the limits of physical nature.

Law Five: The mind of human beings can control the physical activities of the brain.

Law Six: All diseases of society originate in the intellectual processes of man.

Law Seven: Man has evolved new, sophisticated senses within the unconscious mind. One of these is the sense of order.

Law Eight: The will of human beings is an independent function of mind, an independently operating energy of mind that decides upon the ordering of biological activity to produce an ordered alteration of the body's functions.

Law Nine: In order for the will to act, another independently operating function of mind, a coordinating director or will executor, is required to turn volition into action.

Law Ten: Man has evolved elaborate, as yet unrecognized intellectual mechanisms to ensure his survival in an evolving nonphysical environment.

Law Eleven: The highest-order intellectual capacities of man reside in, and may always reside in, what we call the unconscious.

Law Twelve: We cannot directly know or experience or have any conscious awareness of the nature of our own mental processes. That is, we cannot be aware of how we are thinking when we are thinking.

Barbara Brown

gious institution, Sargent found that extroverts scored high in telepathy, while introverts scored about at chance (OMNI, 1979). His work is consistent with the assumption that different abilities reside in different states of consciousness, "It's plain that the procedures that yield the big effects are the ones that involve altered states of consciousness — sleep, hypnosis, and so on...". Apparently decreased exteroception and increased interoception are two keys to telepathy. Sargent used the Ganzfeld technique, which consists of altering consciousness by covering the eyes with half ping pong balls and playing white noise through earphones. Similar methods of entering different states include hypnosis, meditation, progressive relaxation, and dreams. Sargent points out these are also associated with ESP. After noting that sender/receiver pairs began to strike up "remarkable rapport" that overflowed into their daily lives, Sargent speculates that this method produces an unusual degree of openness between them, "I can't help seeing an important psychotherapeutic aspect here, coming from the fact that you are working with an altered state of consciousness that simply opens people up to new communication possibilities."

A problem with looking at human abilities as resident in states of consciousness is trying to prove that a particular hypothetical ability does not exist. Conclusive proof may be impossible. This problem is related to the problem that a universal negative statement can never be proven unless it is possible to consider all instances. Someone who hypothesizes an ability may look for it in one state of consciousness, and not finding it there can always say, "It must be in a different state." The search can go on indefinitely. This presents the problem of when to call off a search. Yet, it helps one be open-minded because a hypothesized ability could always exist in another state of consciousness.

As taxonomies of abilities are developed for various states, and as we extend the limits of the twelve domains, our list of human potentials is likely to expand vastly. The ability to produce and control states of consciousness voluntarily might be said to be the basic ability in consciousness education just as reading, writing, and arithmetic are the basic abilities of cognitive education, and the 3 R's of the right hemisphere (above) are basic skills of right-hemisphere learning.

Increasing Abilities by Expanding Consciousness

> As one learns to select one's state of consciousness (pattern of mental functioning), one increases the number of abilities one can learn, develop, and use.

Our current education is an education for what we call our ordinary or normal state of consciousness. This one state is probably a collection of different but similar states. Of course, we are not all in this collection all the time; but we assume it's a normal, general state. We have done a good job of developing this state's education, and much remains to be done. But even more needs to be done in other states' educations and in each of the new domains. Combining and orchestrating these domains to work together and researching the best ways to sequence states are not even in their infancy yet. As one learns to create additional states of consciousness, one may learn those states' resident abilities. It probably will

I can no longer protect myself from the reality of starvation by pretending that people who starve are nameless, faceless strangers. I know now who they are. They're just like me, only they're starving. I can no longer pretend that the collection of political agreements we call "countries" separates me from the child who cries out in hunger halfway around the world. We are one, and one of us is hungry.

Anonymous, cited in

The Aquarian Conspiracy

If every young student *knew* by the time he finished his first biology class, in grade school, that the body responds to self-generated psychological inputs, that blood flow and heart behavior, as well as a host of other body processes, can be influenced at will, it would change prevailing ideas about both physical and mental health. It would then be quite clear and understandable that we are individually responsible to a large extent, for our state of health or disease.

Beyond Biofeedback

Elmer Green and Alyce Green

be possible to select the right state of consciousness or series of states for whatever task we have at hand. In addition to our ordinary abilities, we may commonly develop abilities such as psychic healing (below) or the placebo ability.

Placebo Ability . We are probably mislabeling when we speak of the "placebo effect." *Effect* attributes the curing to the inert pill or spurious treatment which is selected exactly for its lack of effect. We should more properly speak of the "placebo ability." *Ability* attributes the cure to the person, where it actually lies. When we think in terms of an ability rather than an effect, we enter the realm of voluntary human behavior. The placebo ability, like other human abilities, can then be seen as capable of being taught and learned. What methods teach it best? Is it naturally distributed in the population like many other abilities? What characteristics do people high in the placebo ability have? How do they develop them? What state(s) of consciousness does one use to learn "placeboing" and to practice it?

Therapeutic Touch . The research of Dolores Kreiger, R.N., Ph.D., a nursing professor at New York University, illustrates a practical application of expanded consciousness. When its legitimacy has been recognized at all, the laying on of hands, "therapeutic touch" as she calls it, has traditionally been regarded as a rare gift possessed by only a few. In a brilliant piece of research "Therapeutic Touch: The Imprimatur of Nursing," Dr. Kreiger illustrates that this healing ability need not be for the chosen few. She taught 32 registered nurses to perform therapeutic touch on a variety of patients. Her dependent measure, the hemoglobin count, improved in the 64 treatment patients compared with a control group ($p = .001$). She received her doctorate at New York University for this study. Central in teaching this ability was the skill of entering a slightly different state of consciousness where this healing ability resides. This ability's rarity may not be due to the erroneous "fact" that only a few gifted people can do therapeutic touch, but to the unfortunate fact that we do not teach access to the state where it resides.

What would be the social benefits of teaching parents, counselors, teachers, and the general population to expand their consciousness to include the state where this ability resides? The benefits would be vast. This alone indicates that consciousness education is a lead worth following. The possible benefits of other human capacities existing in other states may be vaster by far.

Since there are some states of consciousness which we are hardly aware of and have had little experience in, the question comes up: What abilities if any, may reside in these states? There may even be some states which humans have not experienced yet. By learning to control our subsystems of consciousness, we may be able to combine them in such a way that we will compose a state of consciousness which has not been experienced before or perhaps felt only very rarely. Assuming that different abilities reside in different states of consciousness, we then ask the questions:

The rejection of any source of evidence is always treason to that ultimate rationalism which urges forward science and philosophy alike.

Alfred North Whitehead

In contradistinction to writings on the psychedelics which are occupied with experiences the mind can *have* , the concern here is with evidence they afford as to what the mind *is* .....judged both by quantity of data encompassed and by the explanatory power of the hypotheses that make sense of this data, it is the most formidable evidence the psychedelics have thus far produced. The evidence to which we refer is that which has emerged through the work of Stanislav Grof..... The novelty of Grof's work lies in the precision with which the levels of the mind it brings to view correspond with the levels of selfhood the primordial tradition describes.

Huston Smith

Forgotten Truth :

The Primordial Tradition

Are there new entirely unknown abilities which we may discover? Will there be ways to develop analogs of our current abilities in these new states? Will we expand into new skills, new knowledge, new learning?

Consciousness Curriculum

An educated person can select the appropriate state of consciousness for his/her purpose, voluntarily enter it, and use and develop the abilities that reside there.

From a curricular perspective, I call this the Curriculum for the Voluntary Control of States of Consciousness, or "Consciousness Curriculum" for short. This definition of an educated person includes the skills and content which we currently teach, and adds to them. A graduate of a school which uses a consciousness curriculum should know the usual knowledge and skills and should also have the ability to select and enter a large number of states of consciousness at will. Of course, not all ways of developing consciousness are appropriate at all levels of education. A graduate institute specializing in the development of consciousness would do things very differently from what would be done by an elementary school teacher. This selectivity is similar to the selectivity we now practice in schools. We do not expect a grade school student to do the same things that we expect a high school student or college student to do. The same holds true in the field of consciousness. However, younger children may want to study consciousness and to know about it without actually practicing the techniques, just as younger children may learn about airplanes, war, and the living habits of people in far away lands. We do not necessarily expect them to go out and commit war, fly an airplane, or practice those habits.

Liberal Education . As an education for freedom, liberal education takes on an expanded definition when approached from a consciousness perspective. To be fully free, one must be able to go beyond the state-specific thinking typical of today's liberal education into using all states of consciousness fully. We need to take responsibility for selecting our states of consciousness and for developing their resident abilities. Consciousness curricula offer new ways of freedom including the great ideas and major thinkers of the traditional liberal arts, but going far beyond them to include the major states of consciousness. Freedom of the mind now also means freedom from being tied to one or a few states of consciousness.

The social sciences and humanities all stand on assumptions about human nature and the human mind. These assumptions show up in the content of what is taught and in the activities and expectations that social scientists and humanists have for themselves and their colleagues. Tart's challenge that psychology is incomplete because it neglects states of consciousness is equally applicable throughout Western thought. Perhaps we feel threatened by other states because many of them surpass or diminish the role of the ego, self, etc. We defend ourselves by

After more than ten years of almost total neglect, it is time to take up the work that was laid down unfinished in the sixties. We need to arrange a way for people to take psychedelic drugs responsibly under appropriate guidance within the law, and a way for those who want to administer them to volunteers for therapeutic and general research to do so.

Psychedelic Drugs Reconsidered

Lester Grinspoon and James B. Bakalar

That's the essence of science: Ask the impertinent question, and you are on your way to pertinent science.

The Ascent of Man

Jacob Bronowski

pretending that these other states are abnormal and useless aberrations. The ego feels threatened by states that surpass it, and we rationalize them into insignificance. The assumptions about the superiority of our usual awake state have yet to be widely tested, but evidence is accumulating that may break through our parochialism ("Some Assumptions of Orthodox, Western Psychology" Tart, 1975, pp. 61-111). Reasoning, thinking, learning, analyzing, perceiving, remembering, performing, conceputalizing, feeling, and evaluating (even concepts, theories, and paradigms) are all embedded in states of consciousness. *Failure to recognize the primacy of states of consciousness is the major intellectual error of our times.* When this is recognized and we start to experiment with states of consciousness as a variable, the impact may well trigger one of history's rare and great intellectual banquets. As Bronowski says in *The Ascent of Man* , major advances in civilization occur when an expanded view of human nature opens doors to new human potentials and expectations. Are we at such a turning point? Many students of consciousness studies think so.

A stunning example of how consciousness studies may deepen our understanding of the intellect comes from Grof's works. Joseph Campbell, author of *The Hero With A Thousand Faces* (1949) speculates that mythopoetic heroes, schizophrenics, and psychedelic mind-explorers all report different versions of the same basic experiences at deep levels of their minds (1972). Philosopher of religion Huston Smith (1978) says that a primary "forgotten truth" underlies the surface differences in major world religions and that this perennial religion is experimentally verified by Grof's mindview emanating from his psychedelic research. Astronomer Carl Sagan (1979) speculates that the three major cosmologies (steady state, pulsating universe, and big bang) appeal to their proponents on the basis of three perinatal matricies as described by Grof. His research also makes it appear possible that the philosophical *a prioris* of time, space, matter, and objective observer (identity) can become manipulative variables. In 1968 Maslow recommended Grof's work to educators in the *Harvard Educational Review* . This provoking convergence of literature, symbolism, religion, anthropology, philosophy, psychology, astronomy, and education, implies a fascinating question: Do consciousness studies offer new ways of understanding states of consciousness that underlie and unite supposedly separate disciplines? Are there ways of exploring the deep mental strata where thoughts arise? Tantalizing bait for those interested in ideas.

Jewel Hunt in the Mind

Consciousness educators and psychologists share an exciting discovery about the possible transformation of human life and learning. It is too big to know how to describe fully. It involves greatly expanded ideas of what the human mind is and of how and what we can learn. It includes discovering, exploring, researching, and developing human abilities in all states of consciousness. Just as we are now developing our

Future-casting

Institute for the Advanced Study of Consciousness
Center for Research on Consciousness and Education
Department of Consciousness Studies

current normal state and its many resident abilities, we should discover and develop other states and their abilities. Reason is the jewel of our normal state. It brings us the inestimably valuable analytic and linear capacities, including the sequential views of time and space, linear thought, linear time, linear space, and the technologies and sciences of that state — medicine, law, even telephones, stereo systems, and television sets. If one state can do so much for our culture and our civilization, how much might the systematic cultivation of other states add?

Even imagination may be statebound. If so, the possibilities could go far beyond our current fantasies. Some abilities are probably rare and state specific. Others have state to state analogues; memory, for example operates differently from state to state, while physical height seldom does. How many states are there? Hundreds or thousands, according to Eastern psychologies. Who knows how many other jewels of the mind are yet to be discovered?

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Conscience, Psychologie et Education
Dans cet article, on s'intéresse à la psychologie de la conscience telle qu'elle s'applique à l'éducation. Cependant, on pourrait aussi parler, d'une façon plus globale, de la sociologie de la conscience, de la philosophie de la conscience, de l'anthropologie de la conscience, de la biologie de la conscience, et ainsi de suite. A l'époque actuelle, tout change en ce qui concerne notre compréhension de la conscience et, avec cela, il se produit des changements dans tous les domaines dont la conscience fait partie. En effet, toutes les disciplines, tous les domaines utilisent le concept de la conscience. Que se passera-t-il si nous decouvrons que la conscience a de nouvelles dimensions? On va sans doute être obligé de changer la nature de nos recherches scientifiques, de même que les hypothèses sur lesquelles nos recherches sont basées. Quand les bases d'une discipline se transforment, il se produit aussi des changements dans le contenu des cours de cette discipline, dans le rôle que cette discipline joue dans l'éducation et dans la société en général. Tout en considerant ces changements, qu'arrivera-t-il dans la philosophie de l'éducation, la sociologie, et ainsi de suite? Si la connaissance, la perception, la pensée variaient d'un état de conscience à un autre? Si la verité elle-même se transformait d'un état à un autre? Quelles questions profondes la psychologie de la conscience soulève-t-elle concernant l'esprit? l'intelligence? le cerveau? L'auteur conclut en espérant provoquer le lecteur à réfléchir à tous les points qu'il a soulevés au cours de sa discussion.

Bewußtsein, Psychologie und Bildung: ein spekulativer Aufsatz
Diese Skizze über die Psychologie des Bewußtseins und einige ihrer erzieherischen Folgerungen stellt nur Bewußtseinspsychologie dar. Es gibt auch Bewußtseinssoziologie, Bewußtseinsphilosophie, Bewußtseinsanthropologie, Bewußtseinsbiologie, usw. Wir erleben eine Musterveränderung nicht nur in einem Fach. Wie wir das Gedächtnis verstehen, ändert sich, und, wenn das sich ändert, ändert sich alle Forschung in Bezug auf das Gedächtnis. Alle Fächer und praktische Berufe benutzen den menschlichen Geist.

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Was wird damit geschehen, wenn wir herausfinden, daß wir mit diesem allgegenwärtigen Mittal der intellektuellen Anstrengung neue und verschiedene Sachen machen könnten? Die Unterschiede ändern die Natur der Wissenschaften, wissenschaftliche Methoden und viele Annahmen, worauf sie gegründet sind. Wenn die Voraussetzungen für irgendein Fach sich wandeln, ändert sich auch der Inhalt der Vorlesungen in dem Fach und die Folgerungen für Bildung und andere Institutionen. Was könnte in der Bildungsphilosophie, Soziologie, usw. passieren?
Was wäre, wenn das Kennen, Erkennen und Denken von einer Bewußtseinsebene zur anderen sich änderte? Was wäre, wenn die Wahrheit selbst von einer Ebene zur anderen anders wäre? Welche tiefgründigen Fragen über unseren Geist wirft die Psychologie des Bewußtseins für unseren Geist auf? Ich hoffe, daß dieser Aufsatz Sie veranlasst, über die Fragen nachzudenken.

Un Ensayo Especulativo sobre Psicología, Conciencia y Educación

Esto es solamente un esquema de la psicología de la conciencia y algunas de las implicaciones educacionales que la ilustra. También hay la sociología de la conciencia, la filosofía de la conciencia, la antropología de la conciencia, la biología de la conciencia, etc. No tomamos parte en un cambio de modelo en un solo campo. Nuestra comprensión de la mente está cambiando, y cuando esto ocurre todos los estudios en ella cambian también. Todas las materias y los usos prácticos emplean la mente humana. ¿Qué les pasará si descubrimos que podemos hacer nuevas y diferentes actividades con esta herramienta omnipresente de esfuerzo intelectual? Estas diferencias alteran la naturaleza de las ciencias, sus aplicaciones y muchas de sus suposiciones. Cuando estas presunciones cambian en cualquier campo, también cambia el contenido de los cursos en ese campo y sus implicaciones para la educación y para otras instituciones. ¿Qué pasaría en la filosofía educacional, la sociología, etc.?

¿Qué pasaría si lo percibido y pensado variaran de un estado de conciencia a otro? ¿Qué pasaría si la verdad misma cambiara de una situación a otra? ¿Qué preguntas profundas presenta la psicología de la conciencia a nuestras mentes sobre la mente? Espero que este ensayo los motive a pensar en esto.

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Volume 5, Number 4 Winter, 1980

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Published by the Society for Accelerative Learning and Teaching, Inc.

ISSN 0273-2459

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

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Volume 5, Number 4 Winter, 1980

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Printed in the U.S.A.

J. of the Society for Accelerative Learning and Teaching, 1980,
5(4)

The Effects of Suggestive-Accelerative Learning and Teaching (SALT) on Creativity [1]

Jonathan Edwards
Renton, Washington

Abstract

The purpose of this study was to examine what effects Suggestive-Accelerative Learning and Teaching (SALT) has on the creativity of low and middle socioeconomic status (SES) fifth and eighth-ninth graders in central Iowa. SALT, based on the Lozanov method of suggestopedia, is an instructional method directed toward tapping the reserve capacities of the learner through conscious and especially unconscious means. If SALT can make learning easier and up to five or more times faster than "conventional" teaching methods, but at the expense of student creativity, the method would have limited value. Though the underlying principles of SALT and creativity appear compatible, only one experiment specifically investigated this relationship and found that creativity was encouraged.

A 2x2x2x2 nonequivalent control group design was used with univariate analysis of covariance to determine the effects and interactions of treatment, grade level, SES, and sex on 11 verbal and figural creativity variables derived from raw scores on *Torrance Tests of Creative Thinking*. One hundred seventy-five pupils (the sampling unit) were exposed to SALT for six-to-seven months by previously trained teachers. Comparison groups met the assumption of homogeneity of regression for 10 of the 11 dependent variables. Results from four auxiliary studies indicated that uncontrolled effects of pretesting, history and maturation on posttest scores were small.

SALT significantly increased creativity as measured by five variables: verbal flexibility, figural fluency, flexibility and elaboration, and the number of creative strengths. The direction of differences favored SALT for all 10 dependent variables. Significant differences in creativity were found favoring fifth graders on verbal originality, figural fluency and flexibility, while a difference favored eighth-ninth graders for verbal flexibility. The direction of differences due to SES favored middle SES subjects for all 10 measures of creativity, five of which were significant: verbal flexibility and originality, figural elaboration, abstract titles, and creative strengths. Nine first order interactions were found involving treatment, grade and SES.

Educators and students have often expressed a need for a method of learning which is easier, more enjoyable and faster than conventional techniques. Some believe such a methodological change is necessary for survival in a rapidly changing world, and others emphasize mastery of an ever increasing body of knowledge while a third group would stress the need for such a method for better learning of the basics. Suggestopedia might be such a method as evidence points to an acceleration of learning (Schuster, 1972, 1976; Lozanov, 1975).

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[1] This is a condensation of a doctoral dissertation, University of Georgia, 1978 under the direction of E. Paul Torrance. This study was supported financially under a research grant from the Iowa Department of Public Instruction through Heartland AEA-11.

Most evaluations of suggestopedia have focused on achievement test scores which emphasize recall, a very valid dimension, but there is also a need to assess the effects that suggestopedia has on student creativity, an important consideration in American education and society. A review of literature on suggestopedia and the processing of psi information reveals only one study which examines the relationship between suggestopedia and creativity (Novakov, 1975). In the investigation Novakov worked with sixty adult students in the initial stage of suggestopedic instruction in foreign language, and described and analyzed their speech output. There were six groups. three learning English, two learning French, and one learning German. At the end of one month, pairs of subjects were asked to enact a sociodrama. a conflict situation not specifically dealt with in the language course. After the situation was described in the native language, each dyad was given two to three minutes to think over the description, and each dialogue was permitted to last until it came to a natural conclusion. Subjects had no prior knowledge of the content of this exercise or the objectives of the study.

The results and discussion of the study focused on two questions. First, was there evidence that the subjects were more involved in resolving the conflict than using the foreign language properly? Second, how original were the dialogues? Did the subjects use new thoughts or newly formed sentences dissimilar to those found in the textbook?

Novakov found support for both questions. The partners, it was found, had the capacity to maintain their conversation and to stimulate each other to continue. In the dialogues the subjects went beyond the usual question-answer pattern to include patterns such as announcement/question/answer, annoucement/announcement, and question/counter-question/answer patterns. , and question/counter-question/answer patterns.

The major weakness of the Novakov study is the absence of any control group. A comparison group could have studied the same textbook but used a different teaching method. History, maturation, selection, and mortality, as well as an interaction between selection and treatment may have invalidated this study. Without a control group comparisons with other instructional methods cannot be made. In question also is whether the conflict situation really lent itself to the use of pat textbook sentences and phrases. The study, descriptive in nature, suggests lines which further investigation of the creative aspects of suggestopedia may take; namely, verbal fluency, flexibility and originality. A strength of the study is the attempt to determine these dimensions using the specific material covered in the course (did the students simply parrot back what was given them during the course?).

As part of a federal Title IV project to assess the effectiveness and appropriateness of suggestopedia, this study was undertaken to evaluate the effect of SALT on student creativity, a particularly important factor not only because of the nature of American education but also because suggestopedia might appear incompatible with the principles of creative learning since memory is so strongly emphasized. The treatment in this study was an adaptation of the Lozanov suggestopedic method of instruction based on the principles of suggestion (Lozanov, 1971; Schuster, Bordon & Gritton, 1976). Rather than analyze separate elements of SALT, the field application of the whole method intact was examined through usage for most of a school year by five teachers specially trained in the use of SALT.

The general hypotheses of the investigation were as follows:

1. There will be differences in creativity variables between students receiving instruction using the SALT method and students receiving conventional instruction.

2. There will be differences between fifth and eighth-ninth graders in creativity variables.

3. There will be differences between low and middle socioeconomic status students in creativity variables.

4. There will be differences in creativity variables between students receiving SALT instruction and students receiving conventional instruction which depend on grade level.

5. There will be differences in creativity variables between students receiving SALT instruction and students receiving conventional instruction which depend on socioeconomic status.

6. There will be differences in creativity variables between fifth and eighth-ninth graders which depend on socioeconomic status.

7. There will be differences in creativity variables between students receiving SALT instruction and students receiving conventional instruction which depend on both grade level and socioeconomic status.

Rationale

If experimental students' creativity increases relative to that of control students, support would possibly be given to the theory that SALT and the nurturance of creativity are based on compatible principles; that both could be, in effect, tapping human reserves through the deliberate activation of processes associated with the right, or nondominant, brain hemisphere. This might imply that any increase in academic achievement by using SALT does not necessarily come at the expense of one's creativity. In addition, those primarily concerned with nurturing creativity in students could be encouraged to investigate the SALT method and its rationale.

If, on the other hand, experimental students' creativity decreases relative to that of control students, several possible causes, each with theoretical implications, could be further investigated. Perhaps the SALT method encourages the instructor to "teach to the achievement test" at the expense of student creativity. Emphasis on the authority of the instructor using SALT may carry over to the third, or practice, phase of the suggestopedic cycle and decrease the motivation of students to think independently, to criticize constructively, and to withhold acceptance of authoritarian pronouncements until critically examined--all characteristics of the creative person (Martinson, 1963; Torrance, 1962; Ward, 1962).

A treatment-grade interaction favoring SALT and eighth-ninth graders would give possible support to the theory that the older students may have built up stronger barriers or resistances against creative expression than younger students (fifth graders) and that the indirect desuggestion process in SALT has some effect in breaking down these barriers. However, if the "fourth grade slump" in creativity (Torrance, 1967) carries over to the fifth graders in this study, opposing trends may be observed.

Torrance (1970) found that many disadvantaged children show feelings of fear and shyness and refuse to enter into creative activities. He found that "physical warm-up activities are especially helpful in encouraging creativity among . . .disadvantaged children" (p. 65). A treatment by SES interaction favoring the low SES and SALT groups would lend support to these observations and to the theory that SALT, especially its physical warm-up activites and desuggestion procedures, is more effective in reducing barriers against creative behavior with low SES students than with middle SES students. The theory that low SES students have stronger barriers to overcome would also possibly explain this interaction.

Research Design

The population and sample of this study were made up of students from classes taught by five specially trained teachers (SALT groups) and students from classes taught by five different teachers (control groups). Control classes were matched by grade (grades 5 and 8-9) and socioeconomic status (low SES and middle SES) but were from buildings in which SALT was not being used. Two separate experiments were made: one to examine the effect of SALT on three dimensions of verbal creativity and another to axamine the effect of SALT on eight dimensions of figural creativity. Pupil rather than teacher-class was the sampling unit. The distribution of subjects and teachers by experiment, treatment, socioeconomic status, and grade level are shown in Table 1.

Table 1

Distribution of Subjects (numerals) and Teachers (letters) by Experiment, Treatment, Socioeconomic Status, and Grade

Experiment		Verbal			Figural		
Treatment		SALT	Control		SALT	Control	
	Grade						
Low SES	5	a 21	f 20	41	a 23	f 28	51
	8-9	b 13	g 12	25	b 16	g 13	29
Mid SES	5	c 38	h 27	65	d 18	i 21	39
	8-9	e 26	j 24	50	e 20	j 16	36
		98	83	181	77	78	155

Each cell in Table 1 represents one self-contained classroom. Only low SES fifth graders were included in both experiments. This was necessary because there was only one SALT class at this level and because available testing time was limited by administrative requirements to one hour each for pre- and posttests. For similar reasons eighth and ninth grades were collapsed into one grade level: low SES subjects were ninth graders, and middle SES subjects were eighth graders. Fifth grade classes covered a variety of subjects while eighth grade classes emphasized history and ninth grade classes covered science.

Low SES pupils came from urban Des Moines areas whereas middle SES pupils were from suburban and rural areas near Des Moines and Ames. No class had more than ten percent representation of students from ethnic or racial minorities. Sex of subjects was approximately even in each class.

Since random assignment of subjects and treatments to comparison groups was not possible, a four-factor, 2x2x2x2 nonequivalent control group design was used for both verbal and figural experiments (Table 1). There were two levels each of treatment, grade, SES and sex variables. Except for low SES fifth graders, classes were randomly assigned to experiments.

The statistical model used in this study was univariate analysis of covariance (ANCOVA) for each dependent variable, with alternate form pretest scores as the covariate. Regression slopes of comparison groups were tested for homogeneity. This model, because of its robustness, was expected to accommodate minor deviations from the assumptions of linearity of regression, normality of distribution, homoscedasticity and additivity of component contributions to variances. The assumption of independence may be questioned due to sampling biases and to the use of pupil as the sampling unit. Experimental outcomes, based on posttest adjusted for pretest, were subject to confounding by other possible causes, scuh as regression toward the mean. The significance level was specified at .05 using a two-tailed test.

Although SALT and control fifth graders were with their teacher most of the school day, the experimental treatment for fifth grade SALT classes lasted approximately one hour each day, during the teaching of spelling or health. Eighth and ninth graders were in their SALT or control class only 50 minutes daily. Every SALT teacher was given copies of a teacher check list for self assessment of their own SALT classes. A modification of this check list included 32 items which described various procedures used in SALT classes. During the posttest period each teacher rated his/her own class and the project director (who had most contact with SALT teachers and their classes) rated each SALT class on a five-point Likert scale according to the criteria on this check list. Project director and teacher ratings were averaged for each criterion. Teachers of control classes were also asked to complete this check list at the time of posttesting.

These ratings indicate that some elements of the SALT treatment were either not used or used very little. Seating arrangements did not differ much from control classes, nor were students given new identities, a common practice in suggestopedic language courses. Most experimental teachers had trouble synchronizing music, breathing and material presentation during the passive session and frequently deleted this strategy.

Elements which were frequently used by SALT teachers included the use of music from quality stereo equipment, such techniques in the practice sessions as sociodrama, games, skits or songs, and showing acceptance and respect for all students. Mind calming exercises (mental relaxation) were used consistently, even more than physical relaxation exercises.

Form B of the Torrance Tests of Creative Thinking (Torrance, 1966) was administered to SALT and control subjects during September and October, 1976, prior to the use of SALT in the classrooms. Alternate Form A of these tests was administered between April 25 and May 6, 1977, to the same subjects. This test battery assesses various dimensions of creative thinking and consists of two major parts, Verbal (Forms A and B) and Figural(Forms A and B). Descriptions of these tests and evidence for reliability and validity of seven dimensions of creative thinking (verbal fluency, flexibility and originality; figural fluency, flexibility, originality and elaboration) are given in the norms-technical manual (Torrance, 1974b). This study examines four additional dimensions, all derived from the figural tests: abstract titles, resistance to closure, synthesis and creative strengths. Description, rationale, development, scoring and preliminary reliability data of these variables may be found in the research edition of "Streamlined Scoring and Interpretation Guide and Norms Manual (Figural Forms A and B) of the *Torrance Tests of Creative Thinking* " (Torrance, 1977). Rungsinan (1976) and Mourad (1976) have also investigated these variables.

All tests were scored by experienced scorers whose interscorer reliabilities were consistently above .90 for all variables. Raw scores on all variables were used for data analysis.

Operational definitions are as follows:

1. Creativity variables--performance scores on the following 11 specific dependent creativity variables obtained from *Torrance Tests of Creative Thinking*:

a. Verbal fluency
b. Verbal flexibility
c. Verbal originality
d. Figural fluency
e. Figural flexibility
f. Figural originality
g. Figural elaboration
h. Abstract titles
i. Resistance to quick closure
j. Unusual perspective
k. Creative strengths

2. SALT students--experimental subjects of low (urban) or middle (suburban) socioeconomic status (SES) and from fifth or eighth-ninth grades exposed to a suggestive-accelerative learning and teaching method of instruction based on the Lozanov method over a six-to-seven month period.

Analysis of Results

Regression slopes of the comparison groups were found to be homogenous for all dependent variables except "resistance to quick closure". Subsequent data analyses exclude this variable.

The means of the groups used to determine main effects, adjusted for the covariate, are presented in Table 2. Adjusted means for first and second order interactions on the 10 measures of creativity are included in Appendix A.

Table 2

Adjusted Means of Comparison Groups Used to Determine Main Effects on Ten Measures of Creativity

	Treatment		Grade		SES	
	SALT	Control	5th	8-9th	Low	Middle
Verbal fluency	90.59	86.90	88.54	89.41	84.69	91.32
Verbal flexibility	32.93	31.33	30.11	35.13	31.08	32.83
Verbal originality	75.66	74.99	76.83	73.26	62.95	82.47
Figural fluency	25.86	24.07	27.32	21.73	24.54	25.39
Figural flexibility	20.12	17.73	19.89	17.56	18.47	19.38
Figural originality	37.30	34.99	37.83	33.82	35.39	36.93
Figural elaboration	87.95	70.52	74.50	85.25	72.48	86.28
Abstract titles	6.84	6.19	6.12	7.04	5.66	7.44
Unusual perspective	1.43	1.24	1.26	1.43	1.33	1.34
Creative strengths	10.02	8.85	9.09	9.87	8.54	10.39

The ANCOVA results in Tables 3, 4 and 5 are based upon raw scores from the 10 dependent variables for which homogeneity of regression was found.

Hypotheses and Decisions

H1: There will be differences on each creativity variable between SALT students and control students.

The null hypothesis is retained for five measures of creativity: there are no significant differences ($p < .05$) in verbal fluency, verbal and figural originality, abstract titles, and unusual perspective between SALT and control groups. However, the null hypothesis is rejected for five other measures of creativity: there are significant differences between SALT and control students in verbal and figural flexibility, figural fluency and elaboration, and creative strengths.

H2: There will be differences between fifth and eighth-ninth graders on each creativity variable.

The null hypothesis is retained for six creativity variables: there are no significant differences (p< .05) in verbal fluency, figural originality and elaboration, abstract titles, unusual perpective, and creative strengths between fifth graders and eighth-ninth graders. The null hypothesis is rejected for four creativity variables: there are significant differences between fifth graders and eighth-ninth graders in verbal flexibility and originality, and figural fluency and flexibility.

Table 3

Summary of F-Ratios for Analysis of Covariance of Verbal Fluency, Flexibility, and Originality

Source	df	Verbal Fluency	Verbal Flexibility	Verbal Originality
Treatment (T)	1	1.49	3.86*	.01
Grade (G)	1	.12	6.48*	3.85*
SES (S)	1	1.83	4.19*	16.53*
T x G	1	4.43*	2.71	3.13
T x S	1	.03	.07	1.79
G x S	1	.51	16.96*	6.06*
T x G x S	1	1.42	.02	1.24
Sex	1	.59	1.78	.93
T x Sex	1	.00	1.72	1.44
G x Sex	1	.51	.07	.39
S x Sex	1	.21	1.11	.71
T x G x Sex	1	.07	.15	.91
T x S x Sex	1	.17	.05	.45
G x S x Sex	1	.47	.05	.12
T x G x S x Sex	1	.05	.42	.08
Covariate adjustment	1	89.67*	55.63*	32.72*
Error (df and Mean Square)[a]	164	898.10	52.22	1008.67

*p <.05

[a] The mean square for each main and/or interaction effect may be obtained by multiplying the F-ratio times the error mean square.

Table 4

Summary of F-Ratios for Analysis of Covariance of Figural Fluency, Flexibility, Originality, and Elaboration

Source	df	Figural Fluency	Figural Flex.	Figural Orig.	Figural Elab.
Treatment (T)	1	8.48*	19.94*	2.84	20.88*
Grade (G)	1	27.96*	13.80*	3.38	2.71
SES (S)	1	2.39	2.83	1.56	12.01*
T x G	1	3.85*	3.65	.01	.62
T x S	1	19.41*	21.53*	6.81*	5.49*
G x S	1	2.46	6.23*	.06	1.03
T x G x S	1	.27	.30	2.98	3.57
Sex	1	.11	.28	.16	.08
T x Sex	1	2.38	1.29	.25	.52
G x Sex	1	2.96	2.02	1.88	1.32
S x Sex	1	4.18*	2.87	8.82*	.21
T x G x Sex	1	.07	.02	.00	1.84
T x S x Sex	1	.89	.05	.25	.00
G x S x sex	1	.16	.11	.47	.83
T x G x S x Sex	1	.13	.56	3.95*	.02
Covariate adjustment	1	27.69*	39.80*	26.14*	83.57*
Error (df and Mean Square)[a]	136	40.05	17.51	129.14	602.32

*$p < .05$

[a] The mean square for each main and/or interaction effect may be obtained by multiplying the F-ratio times the error mean square.

Table 5

Summary of F-Ratios for Analysis of Covariance of Abstract Titles, Unusual Perspective, and Creative Strengths

Source	df	Abstract Titles	Unusual Perspective	Creative Strengths
Treatment (T)	1	1.07	2.71	5.45*
Grade (G)	1	.40	1.84	.68
SES (S)	1	10.45*	.03	17.03*
T x G	1	2.74	.27	3.34
T x S	1	2.61	.23	.00
G x S	1	.59	.63	.30
T x G x S	1	.36	.04	3.39
Sex	1	.39	.00	4.18*
T x Sex	1	.78	.20	3.04
G x Sex	1	.02	.00	.48
S x Sex	1	4.13*	5.39*	.10
T x G x Sex	1	2.07	.32	.45
T x S x Sex	1	2.92	3.56	.11
G x S x Sex	1	.06	.63	2.35
T x G x S x Sex	1	3.97*	.25	.53
Covariate adjustment	1	30.45*	.82	52.51*
Error (df and Mean Square)[a]	136	11.01	.40	7.70

*$p < .05$

[a] The mean square for each main and/or interaction effect may be obtained by multiplying the F-ratio times the error mean square

H3: There will be differences on each creativity variable between low SES students and middle SES students.

The null hypothesis is retained for five measures of creativity: there are no significant differences ($p < .05$) between low and middle SES students in verbal fluency, figural fluency, flexibility and originality, and unusual perspective. The null hypothesis is rejected for the five other creativity measures: there are significant differences between low and middle SES students in verbal flexibility and originality, figural elaboration, abstract titles, and creative strengths.

H4: There will be no significant interaction between treatment and grade level for each creativity variable.

The null hypothesis is retained for all creativity variables except verbal and figural fluency.

H5: There will be no significant interaction between treatment and socioeconomic status for each creativity variable.

The null hypothesis is retained for all creativity variables except figural fluency, flexibility, originality, and elaboration.

H6: There will be no significant interaction between grade level and socioeconomic status for each creativity variable.

The null hypothesis is retained for all creativity variables except verbal flexibility and originality, and figural flexibility.

H7: There will be no significant interaction between treatment, grade level and socioeconomic status for each creativity variable.

The null hypothesis is retained for all creativity variables: there is no third order interaction.

Summary and Conclusions

One hundred seventy-five experimental pupils (the sampling unit) were exposed to SALT for six-to-seven months by previously trained teachers. Comparison groups met the assumption of homogeneity of regression for 10 of the 11 dependent variables. Results from four auxiliary studies indicated that uncontrolled effects of pretesting, history and maturation on posttest scores were small.

SALT significantly increased creativity as measured by five variables: verbal flexibility, figural fluency, flexibility and elaboration, and the number of creative strengths. The direction of differences favored SALT for all 10 dependent variables. Significant differences in creativity were found favoring fifth graders on verbal originality, figural fluency and flexibility, while a difference favored eighth-ninth graders for verbal flexibility. The direction of differences due to SES favored middle SES subjects for all 10 measures of creativity, 5 of which were significant: verbal flexibility and originality, figural elaboration, abstract titles, and creative strengths. Nine first order interactions were found involving treatment, grade and SES.

Conclusions

The findings of this study support the following conclusions:

1. There are differences favoring SALT between students receiving instruction using the SALT method and students receiving conventional instruction on 5 out of 10 measures of creativity.
2. There are differences between fifth and eighth-ninth graders on 4 out of 10 measures of creativity.
3. There are differences between low and middle socioeconomic status students in 5 out of 10 measures of creativity, all of which favor middle SES students.

Discussion

This study gives support to the claim that SALT and the nurturance of creativity are based on compatible principles; they both may tap human reserves through the deliberate activation of unconscious mechanisms and processes associated with the right, or nondominant, brain hemisphere. Academic achievement and/or positive attitudes toward learning gained through the use of SALT do not necessarily come at the expense of one's creativity, and educators primarily concerned with nurturing creativity in students can be encouraged to investigate the SALT method and its rationale. SALT appears to have a greater positive effect on figural creativity than verbal creativity. Of the five measures of creativity for which a significant difference was found due to treatment, SALT had the greatest effect on increasing figural elaboration and figural flexibility (see Appendix B).

Differences due to grade level were mixed between fifth and eight-ninth graders, even between verbal measures and figural measures of creativity. The only other main effect, besides treatment, which demonstrated consistent findings was the socioeconomic status of the students. The treatment interaction may have been greater for middle SES students.

Results of this study, though tentative, suggest several directions for training teachers in the use of strategies. Increases in creativity as the possible result of SALT instead of deliberate creativity training or "teaching to the test" may indicate that, to nurture creativity, more emphasis should be given to techniques which help in the incubation and illumination stages of creativity. These are stages associated with unconscious processes, with the right side of the brain (incubation) or the left becoming aware of the right side (illumination). Support may also be given for the use of sociodrama, the encouragement of guessing, the focus of the teacher on the strengths and reserves of the student, and the greater use of various forms of art in the learning environment--all of which are aspects of SALT and which may be expected to nurture student creativity.

As with all new, promising innovations in teaching, there is a danger of SALT becoming just another educational fad before the method receives adequate research and evaluation. Because significant main and interaction effects were not consistent across all dependent variables and because of design limitations, conclusions drawn from this study are tentative. Ideal SALT conditions were seldom reached.

Design limitations and weaknesses of this study suggest some directions of future research. Improvements would include a larger study using classrooms as the sampling unit with random assignments to comparison groups and treatments. Other measures of creativity more closely related to class content may be considered. Further replications could include other independent variables, such as intelligence, academic achievement, other grade levels, and crossed versus not crossed eye-hand dominance. Finally, between-teacher variation in ability to implement SALT suggests that future research could profitably explore effective teacher selection and training methods.

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Appendix A

Table A

Adjusted Means of Treatment by Grade Interactions for 10 Measures of Creativity(H_4)

	SALT		Control	
	5th	8-9th	5th	8-9th
Verbal fluency*	87.29	95.59	90.12	82.71
Verbal flexibility	30.25	36.97	29.94	33.13
Verbal originality	74.46	77.49	79.81	68.69
Figural fluency*	27.53	24.06	27.16	18.84
Figural flexibility	20.56	19.63	19.35	15.00
Figural originality	39.60	34.81	36.42	32.58
Figural elaboration	81.35	95.10	69.04	73.03
Abstract titles	6.70	7.00	5.66	7.08
Unusual perspective	1.39	1.48	1.16	1.36
Creative strengths	10.08	9.96	8.31	9.77

*Variables for which significant ($p < .05$) interactions were found

Table B

Adjusted Means of Treatment by SES Interactions for 10 Measures of Creativity (H_5)

	SALT		Control	
	Low	Middle	Low	Middle
Verbal fluency	84.79	93.67	84.59	88.36
Verbal flexibility	32.10	33.37	29.99	32.16
Verbal originality	57.96	85.07	68.26	79.21
Figural fluency*	23.28	28.67	25.74	22.21
Figural flexibility*	18.18	22.21	18.74	16.62
Figural originality*	34.58	40.25	36.16	33.70
Figural elaboration*	76.48	100.37	68.68	72.56
Abstract titles	5.63	8.16	5.69	6.74
Unusual perspective	1.40	1.47	1.26	1.21
Creative strengths	9.07	11.05	8.04	9.75

*Variables for which significant ($p<.05$) interactions were found.

Table C

Adjusted Means of Grade by SES Interactions for 10 Measures of Creativity (H_6)

	5th Grade		8-9th Grades	
	Low	Middle	Low	Middle
Verbal fluency	87.31	89.32	80.40	93.91
Verbal flexibility*	31.59	29.18	30.24	37.58
Verbal originality*	70.76	80.66	50.14	84.82
Figural fluency	26.09	29.02	21.82	21.66
Figural flexibility*	18.79	21.40	17.89	17.30
Figural originality	36.82	39.21	32.87	34.59
Figural elaboration	67.84	83.66	80.65	88.96
Abstract titles	5.36	7.17	6.19	7.72
Unusual perspective	1.24	1.29	1.48	1.38
Creative strengths	8.46	9.97	8.69	10.83

*Variables for which significant ($p<.05$) interactions were found.

Table D

Adjusted Means of Treatment by Grade by SES Interactions for 10 Measures of Creativity (H_7)

	SALT				Control			
	5th		8-9th		5th		5-89th	
	Low	Middle	Low	Middle	Low	Middle	Low	Middle
Verbal fluency	81.92	90.25	89.41	98.68	92.96	88.01	70.64	88.75
Verbal flexibility	31.81	29.39	32.57	39.18	31.36	28.89	27.71	35.84
Verbal originality	60.21	82.33	54.31	89.07	81.84	78.31	45.63	80.22
Figural fluency	24.29	32.18	21.82	25.86	27.57	26.62	21.81	16.42
Figural flexibility	18.11	24.09	18.28	20.71	19.36	19.35	17.41	13.04
Figural originality	37.62	42.45	30.22	38.49	36.17	36.74	36.13	29.71
Figural elaboration	66.71	102.39	90.53	98.76	68.77	69.39	68.49	76.72
Abstract titles	5.48	8.44	5.85	7.93	5.26	6.20	6.62	7.46
Unusual perspective	1.34	1.46	1.50	1.47	1.16	1.16	1.47	1.27
Creative strengths	9.01	11.61	9.16	10.61	8.01	8.71	8.11	11.11

Appendix B

Table E

Estimates of Eta-Square[a] to Determine the Proportion of Variance Due to Main and Error Effects for 10 Creativity Variables

Creativity Variable	Treatment	Grade	SES	Error
Verbal				
Fluency	.007	.001	.008	.754
Flexibility	.014*	.024*	.015*	.602
Originality	.000	.016*	.071*	.699
Figural				
Fluency	.040*	.133*	.011	.648
Flexibility	.099*	.069*	.014	.678
Originality	.016	.000	.009	.779
Elaboration	.108*	.014	.062*	.706
Abstract Titles	.006	.002	.059*	.771
Unusual Perspective	.017	.012	.000	.864
Creative Strengths	.027*	.003	.084*	.667

*Eta^2 of effect for which a significant ANCOVA F-ratio was found, $p < .05$.

[a] Eta-square adjusted by taking out effects of the covariate:

$$\text{Adjusted eta}^2 = \frac{\text{Partial SS}_{\text{between}}}{\text{SS}_{\text{total}} - \text{SS}_{\text{covariate}}}$$

Die Effekte von Suggestiv-Accelerativem Lernen und Lehren (SALT) auf schöpferische Kräfte

Der Zweck dieser Studie war, die Effekte von suggestiv-accelerativem Lernen und Lehren auf die Schaffenskraft von Schülern in der fünften und neunten Klassen und aus den niedrigen und mittleren Gesellschaftsschichten (SES) in zentralem Iowa zu untersuchen. Salt, eine auf die Suggestopädie von Lozanov gegründete Unterrichtsmethode, soll durch beide bewußte und unbewußte Mittel die Reservenkapazität des Lerners ausnützen. Wenn SALT das Lernen erleichtern und bis aufs fünffache oder mehr beschleunigen kann als konventionelle Unterrichtsmethoden, dies aber auf Kosten der Schaffenskraft und Geistesentfaltung der Schüler, dann hätte die Methode nur beschränkten Wert. Obgleich die grundliegenden Prinzipien von SALT und Schaffenskraft vereinbar zu sein scheinen, hat nur ein Experiment diese Beziehung untersucht, und es wurde festgestellt, daß die Schaffenskraft gefördert wurde.

Ein 2x2x2x2 unäquivalenter Kontrollgruppenentwurf mit univariater Analyse von Kovarianz wurde verwendet, um die Effekte und Interaktionen von Behandlung, Klassenstufe, SES und Geschlecht auf 11 ver-

bale und figurale Schaffenskraftvariabeln, die von rohen Punktzahlen auf Torrance Tests of Creative Thinking gezogen wurden, zu bestimmen. Sechs bis sieben Monate wurden 175 Schüler (die Probegruppe) mit SALT von schon ausgebildeten Lehrern unterrichtet. Die Vergleichsgruppen trafen die Annahme von Gleichartigkeit der Regression für 10 aus den 11 abhängigen Variabeln. Die Ergebnisse von vier Nebenstudien deuteten darauf hin, daß die unkontrollierten Effekte von Vorprüfen, Geschichte und Reifung auf die Nachprüfungspunktzahlen gering waren. SALT hat die Schaffenskraft bedeutsam vermehrt--nach fünf Variabeln gemessen: verbaler Geschmeidigkeit, figuraler Gewandtheit, Geschmeidigkeit und Ausführlichkeit, und der Zahl der Schaffenskräfte. Die Richtung der Unterschiede wegen SES bevorzugt SES Versuchspersonen für alle zehn Schaffenskraftmessungen, wovon fünf bedeutsam waren: verbale Geschmeidigkeit und Originalität, figurale Ausführlichkeit, abstrakte Titel, und schöpferische Kräfte. Neun Interaktionen erster Ordnung in Bezug auf Behandlung, Klasse und SES wurden gefunden.

Los Efectos del Aprendizaje y de la Enseñanza sugestivos-acelerados (SALT) en la Creatividad

El propósito de este estudio fue determinar qué efectos el aprendizaje y la enseñanza sugestivo-acelerado (SALT) tienen en la creatividad de alumnos en el quinto y octavo-noveno grados de niveles socioeconómicos bajos e intermedios en la parte central de Iowa. SALT, basado en el método Lozanov de la sugestopedia, es un método de la enseñanza, dirigido hacia el uso de las capacidades en reserva del alumno de manera consciente ye sobre todo inconsciente. Si SALT puede facilitar el aprendizaje y hacerlo hasta cinco o más veces más rápido que los métodos convencionales de la enseñanza, pero a costa de la creatividad del alumno, el método tendría un valor limitado. Aunque los principios fundamentales de SALT y la creatividad parecen compatibles, sólo un experimento investigó esta relación especificamente y descubrió que se mejoró la creatividad.

Un arreglo de 2 x 2 x 2 x 2 en un grupo de control no-equivalente fue usado con un análisis univariado de co-variación para establecer los efectos y las interacciones del tratamiento, del grado, de SES, y del sexo en once variables de la creatividad verbal y figurativa derivadas de los resultados básicos en Torrance Tests of Creative Thinking. 175 alumnos (el grupo experimental) fueron introducidos a SALT por 6 o 7 meses por maestros previamente entrenados. Los grupos de comparación satisficieron la presunción de homogenidad de regresión en 10 de las 11 variables dependientes. Los resultados de 4 estudios auxiliares indicaron que los efectos incontrolables del pre-examen, de la historia y de la maduración en los resultados después del examen fueron mínimos.

SALT aumentó significativamente la creatividad medida por cinco variables: la flexibilidad verbal, la fluencia figurativa, la flexibilidad y la elaboración, y el número de fuerzas creativas. La dirección de las diferencias estaba a favor de SALT para todas las 10 variables dependientes. Se encontraron diferencias significativas en la creatividad a favor de los alumnos del quinto año en la originalidad verbal, la fluencia figurativa y la flexibilidad mientras que una diferencia estaba a favor de los alumnos de los años octavo y noveno en la flexibilidad verbal. La dirección de las diferencias debidas a SES estaban a favor de los individuos de SES intermedio en las 10 medidas de la creatividad, cinco de las cuales eran significativas: la flexibilidad verbal y la originalidad, la elaboración figurativa, los títulos abstractos, y las fuerzas creativas. Se encontraron nueve interacciones del nivel primero en cuanto al tratamiento, al año y a SES.

Les effets de SALT sur la créativité

Dans cette enquête on a examiné les effets de SALT sur la créativité des élèves. Les sujets, qui venaient tous d'un milieu bourgeois ou petit bourgeois, étaient dans le 5e ou 8e grades d'écoles iowiennes. Basé sur la Suggestopédie du Dr Georgui Lozanov, SALT, en tant que méthode d'enseignement, s'adresse à l'inconscient de l'élève par une variété de techniques "suggestives." Cependant, peu d'expériences ont été faites sur l'influence de la méthode suggestopédique (ou de SALT) sur la créativité. Dans cette enquête sur la créativité, on a examiné un certain nombre de variables tirées des *Torrance Tests of Creative Thinking*. Cent soixante-quinze élèves ont été formés par la méthode SALT pendant une période de six/sept mois. Les professeurs étaient tous des "suggestopèdes." En comparaison avec des groupes de contrôle, les élèves des classes "SALT" ont fait preuve de plus de créativité, surtout en ce qui concerne la flexibilité et l'originalité verbales.

J. of the Society for Accelerative Learning and Teaching, 1980, 5(4)

A Teacher's Experience of Being a Suggestopedia Student

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Abstract

Scientifically restrained writing has its own merits and uses. However, scientific restraint seemed at odds with claims of joyfulness and pleasantness in the atmosphere of suggestopedic and SALT classes. I felt suspicious that innovative educational practices could claim to reach the full humanity of students while advocating a style of writing that addressed itself only to the logical mind. Parents of children don't always give the credit to the child they know the child deserves. Intellectual parents may have the same difficulty with their ideological children. Nevertheless, suspicious and excited at the possibility of a humane classroom that promised full success in learning, I decided the only way to know with certainty was to be a participant in a Lozanov classroom rather than an observer learning theoretical knowledge. What must be obvious to suggestopedic and SALT teachers who practice the techniques can easily be omitted from their written accounts. My intention here is to provide a participant's experiential description of the feel and atmosphere of a Lozanov Spanish class, 1) to confirm written claims, and 2) to encourage further interest of teachers in an exciting educational experience. The description is written with attention to my experience together with what written accounts reveal. I was not only pleased with acquiring a language but with the positive changes I've experienced in my personality.

At 38, I wondered if I could become a student again and learn something entirely new. I had become comfortable in old habits. Certainly, in a much more important way, this worry must have occurred to Tomas, an 84-year-old banker who turned out to be a very successful student in the class, a kind of living dictionary. I had been teaching for 15 years and reasonably content with my teaching but not content with what students learned. I taught. Sometimes they didn't learn. So why not experience the claims of the *SALT Journal* , Ostrander's *Superlearning* (1979), and Lozanov's *Suggestology and Outlines of Suggestopedy* (1978). If learning could be pleasant and work at the same time, what could be better. I was excited and suspicious. I registered, together with my wife, in a Spanish class at the Lozanov Learning Institute of San Diego, 325 West Washington St., San Diego, California. My excitement was fueled by the possibility of success; my suspicion was fed by the impersonality of written reports of success that claimed joyfulness in learning but didn't give any believable account, to me, of the feel and atmosphere of a class. I found out.

The Interview . Nervous, I met the Academic Director of the Institute and explained that I was on sabbatical, in the position of being a tired teacher, a kind of industrial spy, suspicious of my reasonably good memory, and worried about learning a language successfully. The Director immediately put me at ease and suggested that I would gain confidence in my memory. I was impressed by her friendliness, her warmth, and her confidence in suggestology. The Director also pointed out that Georgi Lozanov, himself, would hold a three-day conference during the Spanish term where I might pick up the teaching methodology first hand. I left the interview exhilarated with my hands full of theoretical explanations of suggestology, a visitor's guide to San Diego, and an offer of help to find lodging. This administrator believed in her school and her teachers. My experience of traditional administrators was not always so positive. The *Suggestology* book (Lozanov, 1978) explained why. Administrators set up an atmosphere of positive success, supportive of their teachers, and establish their teachers' credentials--a technique observed to be successful in psychotherapeutic contacts.

The Class . The first day of class, administrators are there again, passing out free literature and explaining procedures in the class. I was impressed that an administrator could show up in a class to establish the authority and prestige of a teacher as well as be supportive of students and the learning atmosphere. I couldn't help but think that an administrator usually shows up to grade the teacher and check up on the class, a negative and discrediting influence. What a different educational world it is where the whole educational environment is a positive establishment of confidence in the humanity of students and teachers. How simple and how miraculously humane.

Then, privately, in a separate room, eleven of us, separately, are interviewed by a person in Spanish. I understood nothing of what he said in Spanish and didn't suspect I was being given a placement quiz. Then we are all back in the class a little nervous and excited, sitting in a semi-circle of easy chairs, and chatting among ourselves. The person who interviewed us comes in talking in Spanish. His voice is kind, soft toned, and excited but not overwhelming. Although he was speaking in Spanish, and no one should have been able to understand him, everyone did. His hand gestures made everything clear. Pantomime. It was the party game of charades with deliberate effects of suspense and involvement. He was Miguel, a director of a film, and we were all to be actors in this film. Actors need names and he had suggestions written on a chart: Estrella, Veronica, Tomas, Javier, Maria, Ricardo, Carlos, Alicia, Guillermo, Rosa, Arturo. We chose names and professions. I chose Arturo Brujo, brujo or sorcerer because I wanted a life of magic and fun. I would be Goethe's Dr. Faustus and be able to tell the devil where to go. Time passed quickly, we were exposed to some basic vocabulary and verb forms, all motivated by the social necessities of being able to tell who you were, what you did. This did not seem like a classroom; it seemed like and continued to be an idealized family with a family-like, home environment as a setting, a kind and interested, soft-spoken father as teacher and both enthusiastic and naughty children as students. Break for thirty minutes.

Active Concert . Miguel comes back this time solemnly, hands out class books, and tells us to read along as we listen to music. After a few minutes of Romantic music, Miguel reads and reads only the Spanish as students read both Spanish and English. In the first concert, Miguel read for approximately four seconds, paused for three or four seconds: the pausing was irregular and followed the contours of the music. The reading was all emotionalized and rhythmic, alternating with soft, whispering tones and louder, more authoritive tones. A mysterious 45 minutes passed while sometimes I could pay attention and sometimes I drifted. Three minute break.

Passive Concert . More classical music, this time Baroque; this time we didn't look at the books but listened. Only the Spanish was read, and this time in a normal but emotionally dramatic way without pausing or varied intonations. In less than half the time of the first concert, we are finished. There is a solemn pause at the end while the music plays by itself. We all leave eager for the next session.

Elaboration . The next day set the pattern for the class. After the concert sessions, we read a part of the concert session materials in chorus, sometimes in whispering tones, alternating in louder tones with laughter at our mistakes. Then different individuals read alone the different parts of the dialogue with different hats and wigs for appropriate roles. We had duplicated the teacher's behavior in the concerts, this time with student involvement. I was impressed about the way corrections were offered. When a person made a mistake, a correction was offered in the same formula--"Yes, and the correct way of pronouncing the word," always delivered in a quiet and positive way. The teacher also made mental notes of errors: he later used a grammatical form correctly while catching the student's eye. The academic director explained this method of correction as "off the cuff" teaching; it requires a great deal of alertness, memory, and spontaneity on the part of the teacher. After a few minutes of reading, a puppet was introduced, Juan, a racoon-like bandit. No one was given the puppet to play with at that time. But you could tell, as I felt, that I couldn't wait to get my hand in that puppet to make it speak. And that puppet, like the rest of the class, was ingeniously used to motivate speech. When you can't do something right away, suspense and desire grow. And suspense and desire characterized the six pleasant weeks of the class.

The teacher always knew what would happen next but the students never did. So we were always in an atmosphere of positive expectancy. Two real telephones were introduced and only two students were allowed to hold a dialogue on the phone the first time. The desire to play is enormous and, when you get a chance, imaginative and unthreatening social pressures easily motor all the Spanish you've heard in the concerts and played with once before.

The same was true with telegrams that the teacher had created in advance of class. Not everyone received a telegram right away. It was like being left out of a present on Christmas. Another important feature of the games was the fine memory and sensitivity of Miguel. Telegram messages were engineered to recall incidental things you had said or had been interested in. If you had talked about a husband who was vacationing a lot, you might receive a telegram requesting you as wife to go to work to support the vacation expenses. As the Academic Director told me, Lozanov emphasized working with the present and all the energies that spontaneously generate themselves in the class. The teacher knows the verb paradigms and vocabulary that need to be elaborated and works "off the cuff" to use the interests and imaginative histories the students create in the class. The teacher also maintained the attitude, "this-is-easy, you-already-know-how-to-do-it." and the attitude finds a willing student learner who behaves according to suggestion.

In the process of playing roles, the psychodrama of dialogue, basic vocabulary undergoes frequent (perhaps 12) repetitions but always in different social contexts and with different and varied games and songs. Repetition was never monotonous but always creative and elastic. I say elastic because when you hear eleven other students attempt to use a tense of a verb, you hear eleven other ways with eleven other personalities and voices saying the very thing you want to learn. In the process, I learned how to learn better and I noticed how others learned.

The emotionless traditional classroom engages such a small portion of the mind. However, the suggestopedic system engages the whole person. When emotionalized interchanges take place in the traditional class, they are potentially treacherous surprises for students and teachers alike. But within a positive and idealized family environment, emotions opened up avenues of memory as well as chances of expressing (abreacting) potentially monstrous unexpressed problems. The result was that potentially debilitating aggressiveness naturally diminished in the positive all-accepting air of the class. One angry-young-adolescent, who took offense at any parental role someone else adopted, got the chance to express and come to terms with his anger against authority figures. By the end of the class, he was literally a socially much more charming person. As his anger dissipated, he began to speak Spanish easily whereas at the beginning he refused to speak Spanish at all.

I noticed what some educators pay lip service to is an experiential truth; namely, we all learn at different rates. The suggestopedic attitude accepts the differences in rate of learning with calm assurance that the learning will happen and grow even after the last session. Secondly, I noticed there is an inevitable delay process between first exposure to material, passive ability to recognize, and finally ease in active spoken or written reproduction. I think traditional educators do not allow for the delay and cause needless frustration by once and only exams.

I came out of the class with the renewed sense of the possibilities in humanizing my classroom as well as a better person who has an active Spanish vocabulary of over 1300 words, slightly in excess of what traditional French classes gave me in three years. And, perhaps, more importantly, I learned to take myself lightly (angels are supposed to fly because they take themselves lightly), and glide through everyday problems that seemed, in the past, to be great millstones drowning the joy of being alive. My sister confessed to my wife, "I can't believe the difference in my brother. I even like him now."

Procedure versus attitude : Attitude is procedure. Attitude is the primal feature of everything I experienced as a student in the Lozanov class. Attitude. It is the *feel of the attitude* that I found missing in written accounts, the feel of the atmosphere of class, the joy of being a child again, the suspense of not being able to know what was happening next, a teacher who made you *feel* that there were no limits to human potential, a teacher who made you *feel* it was acceptable to try and to make mistakes and if-you-don't-get-it-now-you-will-a-little-later. This needs to be said. The positive, kind, knowing attitude of the teacher is the emotional center of the class: It provides the virtually invisible backdrop of everything else, the motivating force for everything to be learned, the electrical field that makes everything connect. In Miguel's words, the "medium (my words, attitude) is at least as important as the message." The medium is suggestion, the suggestion that life and learning are possible. Another procedure involving attitude and atmosphere (which is not easily visible as such in this essay) is the use of narrative. The textbook used in the Lozanov class read like a short story. The short story format uses vicarious experience: The reader vicariously participates in the vocabulary and ideas and grammar of a story *as if* it were life. Items to be learned are thus read within an atmosphere of *feeling* , attitude, and motive. Rather than being abstract, the medium of presentation is experientially concrete. With these media, the abstract is associated with the emotional and experiential codes that can reach the long term capacities of the right brain, variously referred to as Non-specific Mental Reactivity, the paraconscious, the unconscious, or the subconscious. As far as procedures of concert presentations and games for elaboration are concerned, they are all variously BUT accurately portrayed in the *Salt Journal* . My concern here is that at least as much concern should be devoted to discussion of attitude as has been devoted to step-by-step procedure. Elsewhere, in "Brain Lateralization and Lozanov Concerts," I attempt to clarify WHY already known step-by-step presentations do in fact work, (Cooter, 1980). I do not attempt to imply that any of the known reconstructions of procedures are procedurally in error. Instead, I attempt to provide reasons why the procedures are all successful. My strong suspicion is that positive attitudes motivate the success of all procedures.

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Une experience personnelle: le professeur en tant qu'étudiant dans une classe suggestopédique

Les mérites du rapport scientifique et impersonnel ne sauraient être mis en doute. Pourtant, il est impossible d'être objectif et de tenir son zèle en contrainte lorsqu'on participe à une classe suggestopédique, tant l'atmosphère y est gaie et pleine d'entrain. Malgré un certain scepticisme, l'auteur a décidé d'abandonner le rôle d'observateur logique et de participer à un cours d'espagnol suggestopédique en tant qu'étudiant. Enthousiaste, il décrit ses expériences, tout en insistant sur l'ambiance positive de la salle de classe. En même temps que l'auteur se montre d'accord avec les articles favorables qui ont déjà été publiés sur ce sujet, il encourage les professeurs à s'intéresser à la Suggestopédie, cette nouvelle méthode d'enseignement si prometteuse. L'auteur se rend compte du fait qu'il a non seulement acquis les elements de base de la langue espagnole mais qu'il a subi des changements de personnalité très positifs.

Die Erfahrung eines Lehrers als Student in einer suggestopädischen Klasse

Wissenschaftliches, maßvolles Schreiben hat seine eigenen Werte und Verwendungen. Aber wissenschaftliche Beherrschung schien mit den Behauptungen von Freudigkeit und Annehmlichkeit in der Atmosphäre der suggestopädischen und SALT Klassen im Widerspruch zu sein. Ich hatte Mißtrauen, daß man behaupten könnte, mit neuen Unterrichtsmethoden die volle Menschlichkeit der Studenten zu erreichen, und dabei für einen Schreibstil eintreten könnte, der sich nur um den logischen Geist bemühte. Die Eltern geben dem Kind nicht immer den Kredit, den das Kind verdient hat, und sie wissen es. Intellektuelle Eltern können dieselbe Schwierigkeit mit ihren ideologischen Kindern haben. Nichtsdestoweniger, mißtrauisch gegen und doch auch aufgeregt über die Möglichkeit eines menschlichen Klassenzimmers, das einen vollen Erfolg im Lernen versprach, kam ich zu dem Entschluß, daß ich nur als aktiver Teilnehmer in einen Lozanov Klassenzimmer darüber Gewißheit bekommen kann, im Gegensatz zu Erfahrungen als theoretischer Beobachter. Was den suggestopadischen und SALT Lehrern, die diese Methoden verwenden, klar sein muß, kann aus den schriftlichen Berichten leicht ausgelassen werden. Ich habe hier die Absicht, die durch Erfahrung eines Teilnehmers gesammelte Beschreibung von einer Lozanov Spanischklasse darzulegen, 1) um die schriftlichen Behauptungen zu bestätigen und 2) um in Lehrern ein weiteres Interesse an einer aufregenden Bildungserfahrung zu fördern. Die Beschreibung wurde mit Aufmerksamkeit auf meine Erfahrung und die schriftlichen Berichte geschrieben. Ich war nicht nur damit zufrieden, daß ich neue Sprachkenntnisse gewann sondern auch mit den vorteilhaften Persönlichkeitsänderungen, die ich an mir selbst erlebte.

La Experiencia de un Maestro como Alumno de Sugestopedia

La escritura con límites científicos tiene sus propios usos y méritos. Sin embargo, parecía que los límites científicos estaban contra las afirmaciones de un ambiente alegre y agradable en la atmósfera de las clases de SALT y la Sugestopedia. Sospechaba que las prácticas educacionales innovativas pudieran alcanzar toda la potencialidad del estudiante al mismo tiempo que se defiende un estilo de escritura que se dirigía solamente a la mente lógica. Los padres de los niños no siempre les dan a éstos el mérito que merecen. Los padres intelectuales pueden tener la misma dificultad con sus niños ideológicos. A pesar de lo anterior, con sospecha y con

entusiasmo por la posibilidad de una clase interesante y agradable que prometiera un completo éxito en el aprendizaje, decidí que la única manera de saberlo con seguridad era participar en una clase de Lozanov en vez de observar ésta desde un punto de vista teórico. Lo que tiene que ser obvio a los maestros de Sugestopedia y SALT que usan las técnicas puede ser omitido fácilmente de sus informes escritos. Mi intención es ofrecer una descripción de mi experiencia como participante de la atmósfera de una clase de español con Lozanov, 1) confirmar las afirmaciones escritas, y 2) alentar más interés en los maestros hacia una excitante experiencia educacional. Esta descripción está escrita de acuerdo con mi experiencia y lo que afirman dichos informes. No estaba solamente satisfecho con mi aprendizaje de una lengua sino también con los cambios que experimenté en mi personalidad.

J. of the Society for Accelerative Learning and Teaching, 1980, 5(4)

Brain Lateralization and Lozanov Concerts

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Abstract

One of the most puzzling and provocative parts of accelerated learning is the use of music. Provocative is the claim that music and intonational reading accelerate memorization by 11.4 percent over ordinary conditions. Puzzling is the fact that Lozanov has downplayed the use of music by discussing it as a ritual placebo that has not been empirically explained. More puzzling is the fact that the music ritual (as I experienced it in six weeks of a class taught by personally-trained Lozanov teachers) was differently performed than portrayed in various written accounts. What this essay attempts to do is 1) to describe the music concerts as they are more recently performed in a Lozanov institute, 2) to explain the active concert in light of brain lateralization of the non-dominant hemisphere and the passive concert in view of what is known of the dominant hemisphere. The use of concert rituals can be empirically explained by brain lateralization research. Although procedures differ in detail, all the codes used in variant concerts are effective in reaching both hemispheres.

Georgi Lozanov has consistently downplayed his use of classical music as an aid in learning. Lozanov has classified the use of music as a "ritual placebo" by declaring that different psychotherapeutic methods frequently yield the same results. Since methods vary, the inference is that the method itself is merely a comfortable, security-creating mechanism that pleases, a "placebo." "And the method--no matter what kind it is, hypnotic, relaxing, etc.--is usually a placebo factor, an external objectification of the expectations of the patient, and a suggestive ritualization," (Lozanov, 1975). Rituals and methods are created by cultural expectations and the teacher merely supplies what the student expects. Elsewhere Lozanov claimed that a second concert was used simply because 1) the students said they preferred it, 2) the second concert eliminated fatigue that normally follows attention to enormous amounts of information. These assertions all feel realistic and non-mystical. After all, the "method" came out of combinations of observations from successful learning systems that were streamlined for greater practical effectiveness.

Sheila Ostrander's *Superlearning* (1979), on the other hand, places enormous mystical significance on the function of music in new learning. Ostrander bases her emphasis on Jane Bancroft's "Discovering the Lozanov Method" (1976) and the suspicion that the critical ingredients were withheld from Westerners' visiting Bulgaria. The sense of importance in music and rhythm was probably motivated by a very provocative sentence in Lozanov's *Suggestology* (1978), "Rhythm is a basic biological principal, a reflection of the rhythms in nature." Lozanov goes on to state that none of the hypotheses attempting to explain the uses of rhythm have been either empirically motivated or demonstrated. Practically, again, he states that music nevertheless has been observed to have the useful effects of a placebo with durable memorization, creating suspense and positive expectation as well as reduction in fatigue. I think the truth is somewhere in between.

In "Results of the First Suggestopaedic Foreign Language Courses in Hungary," M. Rabscak (1975) makes this interesting observation, "During the course we had a chance of truly assessing the effect of the music sessions. For instance, a student, who for some reason or other had missed one music session, failed to master the material given in it in such a way as he would have mastered it had he attended the session. The gap caused by the loss of this material was felt by him throughout the course." I, myself, made this same observation at the Lozanov Institute of San Diego, where a pilot who missed concert sessions (unavoidably) had the least useful vocabulary in the Spanish class we both attended as students. What needs to be clarified is how the concert sessions work and why. They are important. Students and teachers have been observed to be more successful at both learning and teaching when they have a grasp of the reasons why (Lozanov, 1978). Suggestion then has the firm base of conviction. Unfortunately, details of the theory have been left out of the Bulgarian literature.

There is both more than ritual placebo and less than vague mysticism about the first, active concert. "In contrast to the sudden shock methods in medicine, continuous, monotonous, rhythmical effects can also engage the N.M.R. (nonspecific mental reactivity) and can result in overcoming the anti-suggestive barriers very easily," Lozanov mentions (1978). Although the dangers of totally monotonous presentation were found to be light hypnotic trances where psychotic episodes occasionally occurred (loss of self image, a feeling of dying as can happen in desensitization during biofeedback also), the problem was circumvented by varied intonations during the concert.

The first concert, as performed by personally-trained Lozanov teachers, uses classical romantic music (Haydn,Mozart, Handel, Beethoven, Tchaikovsky, Brahms, Chopin) as a background for reading information to be learned (Lozanov, 1971, pp. 270-1). Contrary to Ostrander's claims that only largo movements were used, Merek (1980) at a workshop seminar, April 5, 1980, stated that only *whole musical compositions* with all movements included were used because a whole classic composition reproduces the entire "dynamics of inner life...a full 24-hour emotional cycle." This observation has not been published in written form anywhere in either Bulgarian or Western sources. Maruja (Stephanie Merek) also pointed out (in agreement with Ostrander) that varied intonations were used in presenting verbal information: critical words to be learned are underlined in the script to be learned, and actively but silently read by the student. The teacher reads these words in a "soft," "whispering" and "intriguing" voice. Non-underlined words are read in louder, more authoritative tones. What is so obvious as to go unnoticed in this "toning" is the sense of *significance* in what is being said. There are persons within all of our acquaintance who say trivial things in grand tones: the tone suggests that what is being said is of profound importance. This toning is a habit of old and successful speakers of all kinds. In Lozanov's terms, tone speaks subliminally to our deeper, older brain in ways that are memorable and durable.

Lozanov refers to the part of mind addressed by "tone" as variously as Nonspecific Mental Reactivity, the old brain, the subcortex, and the unconscious or paraconscious. In Western research, we come close to the details needed to complete a full picture of why the first concert works in the way it does. Thomas Budzynski, in "Brain lateralization and Biofeedback" (1979), describes the right brain or the non-dominant hemisphere. In studies with brain-damaged adults, it was discovered that the right brain processes and responds to "auditory intonation contours," material delivered with "emotion," material presented in "short phrases" and in "melodic patterns." Also words spoken "at one-third the normal rate and punctuated with frequent pauses also improved comprehension" in the right brain. This line of brain lateralization research also typically describes the vocabulary of the right brain as equivalent to a "14-year old" with the "syntactical ability of a four or five-year old."

What is clear is that the first concert in Lozanov classes uses all of these codes.

An example of one language script handout at the Lozanov conference illustrates the method:

El aduanero:
Usted lleva muchas maletas,
You carry a lot of suitcases,

muchas *cosas* .
a lot of *things* .

Entiende?
Do you understand?

Son *objetos* personales?
Are they personal *things*

No entiende.
You don't understand.

Dios mio, cuantas maletas!
My God, what a lot of suitcases!

The information is presented in dialogue form, written and read in short phrases, with intonation, pausing, and delivered in melodic ways. This first presentation is clearly addressed to the right brain in the language it understands and in the form it prefers--the vocabulary of a 14-year old and the syntax of a five-year old with lots of repetition. What is not clear from written sources is the length and character of melodic delivery.

Stephanie Merek also explained this. She pointed out that classical music has musical pauses called "caesuras." The task of the teacher is to learn to notice the musical pauses (not every eight seconds as Ostrander said, but the irregularly placed musical pauses) and to follow (which takes lots of trial-and-error practice) the natural pauses. The melodic line of a teacher's presentation should also come not from a metronome but from "feeling" both the musical phrases and the musical caesuras.

As I considered this observation, the other obvious center of the class became transparently wonderful. Lozanov teachers work spontaneously, "off the cuff." As Lupe Escamilla, Academic Director of The Lozanov Learning Institute of San Diego said, the teachers trained by Lozanov work with the energies of the students as they occur at the moment, spontaneously following the "feel" of the present. In this sense the teacher is a true artist following the cues of the music, the students, and the script, creating tones and connections that link emotional content of the music with the emotional content of language, both medium and message in harmony. I suspect, too, that the voices of the teachers are not recorded but living because mechanically reproduced voices flatten the multidimensional qualities in tone and address less of the mind.

The second concert, called passive because the students listen rather than listen and read, uses an emotionally-laden delivery with Baroque music (Corelli, Bach, Vivaldi, Handel, Couperin), but with a dramatic delivery in keeping with the emotional motives of the text. Rather than in short phrases and with pauses, the text is read in a natural, ordinary tone, slightly dramatized, realistically dramatized and read in whole sentences with natural brief pausing at the end and only at the end of sentences. Why? Budzynski (1980) pointed out in a lecture in Denver that the left brain prefers information presented in sequential logical order, in whole sentences, and at a normal rate of speech--neither fast nor slow.

When both concerts are combined we can see that the whole brain is addressed; the aural and melodic preference of the right brain is addressed during the first concert as well as the second, although the second gives preference to the language of the sequential side. In Lozanov's general terms, the material is presented "globally" and reaches the whole person. Budzynski has pointed out that Western attempts at teaching the right brain in twilight-learning circumstances where a dominant theta brain-wave pattern has been encouraged results in "retrieval problems": the right brain may have learned, but can't activate or use what it knows. The Lozanov system overcomes this retrieval problem by addressing the whole mind--if we classify the right brain as the child-unconsciousness (id and trickster of Freud and Jung), then the left brain acting as the adult-consciousness (ego-wise person) has the ability to display and articulate what the child feels and knows in the concerts. The Lozanov methodology treats the human mind as a unity that works in cooperative harmony.

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Les deux hémisphères cérébreux et les concerts lozanoviens-
Dans la méthode suggestopédique, la musique semble jouer un rôle très important; cependant, ce rôle est très difficile à analyser d'une façon scientifique. Selon certains, l'association du pouvoir de la musique à celui d'une certaine qualité de parole--ou intonation--produisent chez les étudiants une augmentation exceptionnelle de la capacité de mémorisation, donnant des résultats de 11,4% plus élevés que l'enseignement du type traditionnel. Pourtant, par certains moments, Lozanov semble nier l'influence de la musique en disant que celle-ci n'est qu'un placebo qui ne peut avoir aucune explication rigoureusement scientifique. Pendant les six semaines d'un cours suggestopédique que l'auteur a suivi tout récemment (le professeur de ce cours avait été formé par Lozanov lui-même), la musique n'était pas du tout la même que dans certains rapports déjà publiés. Dans cet article l'auteur essaie de décrire les concerts tels qu'ils se donnent dans un institut lozanovien et cherche à expliquer la partie active (ou premier concert) par rapport à l'hémisphère non dominant du cerveau et la partie passive (ou deuxième concert) par rapport à l'hémisphère dominant. Le rituel du concert peut se justifier sur le plan scientifique par les recherches qui se poursuivent actuellement sur les deux hémisphères cérébraux. Malgré une grande variété de procédés, toue les codes qui font partie du concert suggestopédique ont un impact positif sur les deux hémisphères du cerveau.

Gehirnseitlichkeit und Lozanov Konzerte

Eines der rätselhaftesten und aufreizendsten Teile des schnellen Lernens ist die Verwendung von Musik. Aufreizend ist die Behauptung, daß die Musik und das intonierte Lesen das Erinnerungsvermögen um 11,4 Prozent über übliche Zustände beschleunigen sollen. Es ist rätselhaft, daß Lozanov die Verwendung von Musik nicht betont, indem er sie als ein rituelles noch nicht empirisch erklärtes Placebo diskutiert. Doch rätselhafter ist die Tatsache, daß das Musikritual, wie ich es in einer sechswöchigen von Lozanov selbst ausgebildeten Lehrern unterrichteten Klasse erlebt habe, eigentlich anders ausgeführt wurde, als es in den verschiedenen Berichten dargelegt worden war. Was in diesem Artikel versucht wird, ist: 1) die Konzerte zu beschreiben, wie sie in einem Lozanov Institut vor kurzem aufgeführt wurden, 2) das aktive Konzert im Hinblick auf die Gehirnseitlichkeit in der undominanten Hemisphäre und das passive Konzert im Hinblick auf das, was man von der dominanten Hemisphäre weiß, zu erklären. Die Verwendung von Konzertritualen kann man durch Forschung mit Gehirnseitlichkeit empirisch erklären. Obgleich all die Vorgänge in Einzelheiten zu unterscheiden sind, sind all die Koden in verschiedenartigen Konzerten wirksam, so daß beide Hemispharen erreicht werden.

Los Hemisferios Cerebrales y los Conciertos de Lozanov

Una de las más provocativas y enigmáticas partes del aprendizaje acelerado es el uso de la música. La afirmación de que la música y la lectura de las notas musicales aceleran la memorización en 11.4 por ciento sobre las condiciones normales es provocativa. El hecho de que Lozanov no ha dado mucho énfasis en el uso de la música diciendo que no es nada más que un ritual que no ha sido explicado empirícamente es enigmático. Más enigmático es el hecho de que la música ritual (como lo experimenté en seis semanas de una clase enseñada por maestros entrenados personalmente por Lozanov) fue ejecutada de una manera diferente que fue discrita en varios informes escritos. Lo que este ensayo trata de hacer es 1) describir los conciertos tal como han sido recientemente ejecutados en el instituto Lozanov, 2) explicar el concierto activo a la luz del hemisferio cerebral no-dominante y el concierto pasivo en vista a lo que es conocido como el hemisferio cerebral dominante. El uso de los rituales de un concierto puede ser explicado empíricamente por la investigación de los hemisferios cerebrales. Aunque los procedimientos varían en sus detalles, todas las claves usadas en los diferentes conciertos pueden ser utilizadas por ambos hemisferios.

J. of the Society for Accelerative Learning and Teaching, 1980, 5(4)

Civilizations of the Left Cerebral Hemisphere?

Gabriel L. Racle

Abstract

This is an article about Tsunoda's research on the Japanese brain mechanisms. Tsunoda has discovered that the Japanese responses to sounds by the left and the right side of the brain were different from the responses obtained with people from other countries. This could be a key to the understanding of the traditional culture of the country.

Last year, an astonishing book was published, which, up to now, hasn't been discussed in North American or European specialized publications. There is a very simple explanation for this fact: the book entitled *Nihonjin nō nō*, is in Japanese. The title means: The Japanese Brain, and its author, Dr. Tadanobu Tsunoda, is a lecturer at Tokyo Medical and Dental University.

Left hemisphere predominance

For more than two years, Dr. Tsunoda has been conducting research on auditory and visual sensations, in an effort to test and understand the functions of the cerebral hemispheres. Using his own method and studying the brain functions of the Japanese, he has discovered that the Japanese responses to sounds by the left and the right sides of the brain were very different from the responses obtained with people from other countries.

The Tsunoda's tests show that a Japanese left cerebral hemisphere receives a wide range of sounds: linguistic sounds (vowel and consonant sounds) and nonlinguistic sounds: cries, emotional utterances, traditional Japanese musical instruments, sounds of wind, waves, creeks, etc. In comparison, the range of sounds received by the left hemisphere of people from western countries is conspicuously narrower, apparently limited to syllables made up of consonant and vowel sounds. On the other hand, the right hemisphere of a Japanese receives a very limited amount of artificial or man-made sounds: mechanical sounds, Western musical instruments, noise. The non-Japanese right hemisphere takes care of all the sounds handled by the Japanese left hemisphere and of the vowel sounds which have no meaning in themselves (steady-state vowels).

But, Japanese living outside of Japan where Western languages are spoken (United States, Brazil, Canada) do not show the typical Japanese pattern after the second or the third generation. They have developed, on the contrary, the Western pattern, while the children of Americans or Koreans who are exposed from their birth to a complete Japanese environment have the Japanese brain functioning system. Consequently, it appears that the uniqueness of the Japanese brain functions is not a hereditary phenomenon, but comes from the influences of the environment.

An explanation

"If indeed the uniqueness of the Japanese brain is determined by environmental factors, what exactly are these factors?" To get an answer to this question, Dr. Tsunoda analyzed the component of environment, and concluded that the first important environmental factor is language. "Even before going into the auditory aspect of spoken Japanese, I thought it important to consider the visual aspect of the language." The Japanese written language is a complex system combining Kanji (Chinese characters), hiragana and katakana (typically, hiragana is used for writing grammatical particles and certain native words; katakana is typically used for writing foreign words and names) which could eventually have an effect on the brain functioning system. But tests conducted with people blind from birth showed that the written aspect of the language has nothing to do with the problem: Japaneses born blind demonstrate the same characteristics as other Japanese.

On the contrary, the spoken language seems to have the strongest influence on brain functions, and not only for Japanese. But there is an important difference between Japanese and non-Japanese. The "steady-state vowels" are received by the right cerebral hemisphere in the case of non-Japanese and by the left hemisphere by Japanese. The explanation of this fact is related to the Japanese language itself. The Japanese vowel system has two major characteristics: all Japanese syllables end in vowels, and any one of the five vowels (or five sounds) can have a meaning in itself; furthermore, two or more vowels (or sounds) can be combined to create expressions. Tsunoda gives an example of that with this twenty one syllable sentence in which all the syllables are vowels:

Ue o ui, oi o ooi, ai o ou, aiueo
(Worrying about hunger, disguising his old age,
he chases love, a love-starved man)

This particularity of the Japanese language could affect the brain functions in transfering automatically all vowels sounds (or closely connected sounds) to the left hemisphere, be they linguistic sounds or emotional or natural sounds. Consequently, the Japanese left hemisphere has to take care of all sounds which are related to reason, nature and emotion. This could be, for Tsunoda, a key to the understanding of the traditional culture of the country and the mentality of the people.

This explanation is based on different studies conducted by Tsunoda and explained in great details in his book. One of them, particularly interesting, is a comparison of cerebral dominance for natural sounds between 14 Japanese and 14 Westerners, and 7 second generation Japanese.

The results, as they appear in the following charts (based on Tsunoda's figures) demonstrate the hemispheric predominance and the differences between Japanese and Westerners.

Chart 1

Japanese

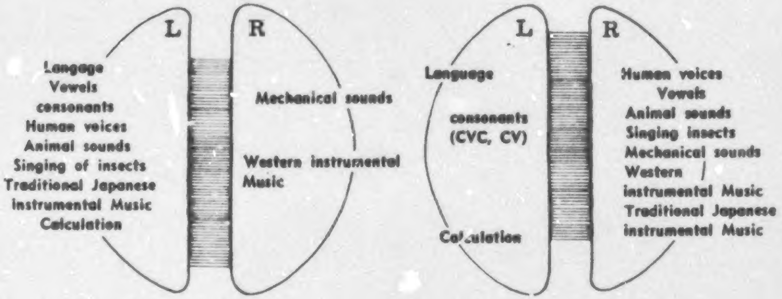
Verbal brain dominant	Non-verbal brain dominant
Hum	Temple bell
Cricket	Helicopter
Cow	Whistle
Cat	Violin A
Chicken	Orchestra A
Cicada	FM
Lion	
Vowels a/i	
non Japanese	
CVC	Cat
CV	Cricket
	Hum
	Cow
	Cry
	Frog
second generation Japanese	
CVC	Cat
	Cricket
	Cow
	Hum
	Frog

Violin A: violin playing A tone
Orchestra A: orchestra playing A tone
FM: frequency modulated sound

CVC: consonant-vowel-consonant
CV: consonant-vowel

For Tsunoda, the difference between Japanese and Westerners in the central processing mechanism for verbal, emotive and natural sounds may be assumed "to be due to a difference in the perception mechanism of complex sounds." "I have found," says Tsunoda, "that the mechanism in which simple steady-state vowels (all five vowels) become dominant in the verbal hemisphere depends on an acoustical pattern in the vowel structure, and that the minimum essential feature processed in the verbal hemisphere by Japanese subjects is an acoustical pattern consisting of at least two formants." The verbal hemisphere is dominant when narrow band noises are combined and produce inharmonic frequencies (for ex. 1 KHz - 1.3 KHz), and the non-verbal hemisphere is dominant when they are harmonic or odd-harmonic (1 KHz - 2 KHz, 1KHz - 3KHz - 5KHz). The frequency ratios in vowel sounds are usually inharmonic, and Tsunoda proposes to classify Japanese cerebral hemispheres in: Inharmonic (language) and Harmonic (non-language). "In the case of Westerners, however, it is very difficult to find a component complex sound for which the verbal hemisphere is dominant, except for syllables which contain consonants (CV,CVC where C = consonant, V = vowel). Thus, it is evident that syllables are the basic units of language for Westerners." And Tsunoda assumes the presence of an "automatic selective switch mechanism" for complex sound in the subcortical area. This mechanism separates sounds into those processed by the dominant hemisphere and those by the non-dominant hemisphere, according to sound pattern.

Difference of cerebral dominance


L
R
Langage
Vowels
consonants
Human voices
Animal sounds
Singing of insects
Traditional Japanese
instrumental Music
Calculation
Mechanical sounds
Western instrumental
Music
L
R
Language
consonants
(CVC, CV)
Calculation
Human voices
Vowels
Animal sounds
Singing insects
Mechanical sounds
Western /
instrumental Music
Traditional Japanese
instrumental Music

Japanese Pattern — Western Pattern

logos
pathos
nature

material

logos

pathos
nature

(Tsunoda)

Consequences

"Since emotional functions in the Japanese are controlled mainly by the left cerebral hemisphere, which is also in charge of linguistic reception and logic; Japanese may be more likely than others, among the "advanced" peoples, to let emotional stimuli confuse their thinking mechanisms." In other words, if Japanese are emotional people, this could be the result of their brain functioning system. Others of Tsunoda's discoveries are also of exceptional interest, for example, his discoveries concerning the way the cigarette affects the brain functions of Japanese. After smoking a cigarette, reception of mechanical sounds which is usually handled by the right hemisphere (in both Japanese and non-Japanese) is taken over by the left hemisphere in Japanese. It takes 60 to 90 minutes to return to the normal system. So, the left hemisphere of a great smoker is always at work. As many people think that they work better if they smoke, and since the pressure of the society in general and of the school system in particular is very high, the consumption of cigarettes is constantly growing. Consequently, the Japanese work with their left hemisphere, more or less constantly, and the country of Japan is the result of the activity of the left hemisphere, which is constantly stimulated by smoking, perfumes, incense, etc.

Among the consequences of the predominance of the left side of the cerebral hemisphere could be a reduction of the analogical function, and in intuitive activities, inspiration and other irrational processes. This contributes to the elimination of creativity, discoveries, inventions. From this perspective a study of Japanese society and of the recent history of the country could be extremely interesting; the very well documented book published by Reischauer (1979) in fact supports this remark.

The Japanese school system emphasizes memorization; entrance exams (high schools, colleges) force students to remember an incredible amount of material, and to overtense their left hemisphere. "The pressures on the examination taker are tremendous, and the whole process is commonly referred as the "examination hell"" (Reischauer, 172). Would it be possible to establish a correlation between the general overtension of the left Japanese hemisphere and the rate of suicides? "Rates (of suicides) for youths from 15 to 25 are much higher (than in some other East Asian countries or in the west), probably reflecting the greater pressures of the educational system" (Reischauer, 153). These "relatively high suicide rates for youth may be in part attributable to the "examination hell""(id., 172). "There can be no doubt," adds Reischauer, "that the restlessness and rebellion of university students, once they have achieved the safe haven of the university, come in part as a reaction to the pressures they have been under before then." Is it another effect of the overtension of the left cerebral side? Could one explain the Americanization of the country (which is an imitation, not a creation), by a lack of creativity due to the dominance of the left hemisphere? "Industry has quite wisely stressed the learning and adaptation of already known technologies, rather than the creation of new ones..." (id., 226). Does this predominance of the left cerebral hemisphere have something to do with the religiosity of the people (mysticism being related to the right hemisphere)? "If this book," writes Reischauer, "dealt with a South Asian or Middle Eastern people, it might well have started with a consideration of religion. Even for North Western nations, religion would have required earlier and fuller treatment. But religion occupies a more peripheral position in Japan" (213).

A confirmation of Dr. Tsunoda's hypothesis could be found by answering our questions. A statistical analysis of the number of discoveries and inventions made by Japanese in comparison with those made by other countries would add another piece of information. We do know that it is difficult for many Japanese to speak another language, not because of a lack of knowledge, but because of the unusual level of tension of the left side of the brain caused by the utilisation of a foreign language. In fact, as Tsunoda demonstrated, for Japanese, a foreign language has, in many cases, an effect similar to the cigarette (switching of the receptivity of mechanical sounds). "It seems," says Tsunoda, "that English is a problem in a category of its own. Japanese study English for years on end, giving painstaking effort, but all that study rarely produces the confidence that one can at last handle even a part of the language adequately." Is that caused by the languages themselves and their opposite particularities? Or is it caused by the localisation of emotions and ease in the same hemisphere? Or by the way foreign languages are learned in Japan? Much more study has to be done to find an answer. To that end a serious experimentation of the suggestopaedic way of teaching languages should be undertaken in Japan. The suggestopaedic system of teaching integrates arts, particularly classical music, as an integral part of this holistic pedagogical system. Both are related to the right hemisphere. One of the hypotheses used to explain the role of music relates to the central processes of stimulation and inhibition. The brain works best, particularly in learning situations, when stimulation processes and inhibition processes are harmonized. Learning does not take place solely in a state of vigilance or in one of increased vigilance. Learning may occur in a state of "cerebral readiness," which is a state avoiding overstimulation or inhibition: a state in fact, of optimal tension. In fact, research conducted by the Bulgarian neurologist Balevski has shown that people who moderately accelerate their cerebral bioelectrical activity obtain the best memorization. A further increase in tension has a decreasing effect. Under suggestopaedic conditions (background of classical music), an optimal tension is obtained by the stimulation of the right hemisphere and the relative inhibition of the left hemisphere. With classical music being handled by the right hemisphere of Japanese people, this strategy must be very effective to facilitate the process of learning and to reduce the anxiety of the locutors.

Tsunoda feels strongly that foreign languages have had a negative influence on the intellectual productivity of Japanese writers and thinkers. "They have powerful resources of knowledge and they read voraciously in many cases, but how many Japanese intellectuals seem unable to offer anything new in their work, or to suggest any new ideas! Is this not because their ability to grasp things intuitively, which is the function of the creative right side, is lost, the right having conceded dominance to the left through the overload of work in foreign languages?" Reischauer expresses the same opinion: "Their past history is not (studded) with great creative intellectual figures..." (id.).

In any event, it must be an interesting subject of research to study a culture and a people dominated by the left cerebral hemisphere.

Polynesian language

There is, at least, one other language dominated by vowels, the Polynesian language. In fact, there are many more vowel words in Polynesian than in Japanese: for example, in Tahitian, Aue] (whow), oaoa (glad), E (yes), oe (you), oia (He), ae ia oe (above you), Ia ua aa oia (they bloom) etc. (Constant, 1978).

To test the validity of his theories, Dr. Tsunoda conducted the same research, in using the same tests, on a group of people from different Polynesian islands: Eastern Samoa, Tanga, New Zealand. The results show that native Polynesian speakers have the same functional division of the brain as Japanese people, (except for people very well anglicized). Does this cerebral dominance have an effect on the Polynesian society? The point has to be studied.

Conclusion

To understand a culture, is it necessary to understand the brain mechanisms of the members of this culture? As far as we know, this question has never been asked, but it could be an important one. The verbal hemisphere of people speaking Western languages automatically assembles words, logic and ethics (logostic perception) with syllables while emotive sound (pathostic perception) are perceived as non-verbal sounds (animal sound, insect singing, crying, laughing, etc.). In contrast to this, logostic and pathostic perception of people speaking Japanese are present in the same verbal hemisphere. "The characteristic perception mechanism of the Japanese brain agrees with the vague naturalness, emotion, logic, and ethics as seen in the Japanese people and the Japanese culture, connecting ethics inherent in culture as indicated by the various arts (tea ceremony, arrangement of flowers, calligraphy, poems, Noh dances, etc.) with the emotional grasp of nature, and giving priority to duty and sentiment rather than to ethics. It might be said that it is natural to the mode of thinking of the Japanese to integrate nature as seen in Zen and unify subject and object."

As we see from this example, Dr. Tsunoda's area of research is certainly an important and promising one. His discovery should interest sociologists, linguists, psychologists, anthropologists and historians. Are there other languages (in the past or at present) having the same effect on brain patterns? Is that related to the evolution of the man's brain? Is it possible to perceive it? And what are the consequences for us, for our teaching systems, our cultures, our habits? A long list of questions is open. Is that the beginning of something?

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Zivilisationen der linken Gehirnhemisphäre

Dieser Artikel handelt sich um Tsunodas Forschung über die japanischen Gehirnmechanismen. Tsunoda hat entdeckt, daß die japanischen Reaktionen der linken und rechten Gehirnseiten auf Töne sich von den Reaktionen der Menschen anderer Länder unterscheiden. Dies könnte der Schlüssel zum Verständnis der traditionellen Kultur des Landes sein.

Civilizaciones del hemisferio izquierdo del cerebro?

Éste es un artículo sobre las investigaciones de Tsunoda de los mecanismos del cerebro japonés. Tsunoda ha descubierto que las reacciones japonesas a sonidos por los hemisferios izquierdo y derecho del cerebro eran diferentes de las reacciones obtenidas de la gente de otros países. Esto podría ser la clave para entender la cultura tradicional de aquel país.

Les civilisations de l'hémisphère gauche

Dans cet article, il s'agit des recherches de Tsunoda sur le cerveau japonais. Tsunoda a découvert que les deux hémisphères du cerveau japonais répondent aux sons d'une façon tout à fait différente de celle des autres peuples. En utilisant les découvertes de Tsunoda, on pourrait mieux comprendre la culture et les traditions japonaises.

J. of the Society for Accelerative Learning and Teaching, 1980, 5(4)

The Effects of Biofeedback-Induced Tension or Relaxation, Chronic Anxiety, Vocabulary Easiness, Suggestion and Sex of Subject on Learning Rare Vocabulary Words*

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Abstract

This study investigated the effects of biofeedback induced tension/relaxation of the forehead muscle during learning and testing, subject chronic anxiety level, vocabulary test easiness, facilitating suggestions and sex of subject on the learning and retention of rare English words. From 108 introductory psychology students tested with the Spielberger et al. Self-Evaluation Questionnaire, 16 subjects were selected with the highest chronic anxiety level, 16 from mid-range and 16 from the lowest level with half male and half female at each level. These 48 subjects were trained in one hour to approximately double or halve their forehead muscle tension with aid of electromyographic biofeedback monitors. The learning task consisted of 25 paired associates of rare English words and their common meanings. Subjects spent 10 minutes attempting to learn the 25 words on a given list, with the acquisition test given immediately afterwards.

There were many significant effects on acquistion resulting in two major conclusions. First, state-trait or state-state matching occurred. Highly anxious subjects typically did significantly better when tensed in the learning situation than when relaxed. The converse was true for chronically low anxiety subjects. Medium anxiety subjects performed worst regardless of induced tension or relaxation. Second, for higher order interactions, the results significantly favored overall relaxation in keeping with suggestopedic concepts. Even the chronically anxious subjects did better when given suggestion with an easy test and when relaxed with biofeedback prior to learning, during learning and during testing. Some significant effects occurred for retention, but the interpretation was clouded by generally low retention scores.

Introduction

The purpose of this study was to investigate the effects of biofeedback induced tension/relaxation of the forehead muscle prior to and during learning and during testing, subjects' chronic anxiety level, vocabulary test easiness, facilitating suggestions and sex of subject on learning and retention of rare English words.

The reason for this study came from conflicting results or reports in the literature. On one hand, Lozanov (1971, 1975, 1978) reported that overall physical and psychological relaxation helped students to learn appreciably faster than usual with an approach called Suggestopedia. Pascal (1959) similarly reported that relaxation improved the recall of paired associates in subjects unselected for anxiety. On the other hand, a number of studies show no such overall beneficial results in improving learning. Specifically, Martin and Schuster (1977) reported an interaction between chronic anxiety level and tension/relaxation induced by muscle biofeedback. High anxiety test subjects performed best when they were in a state of induced muscle tension. Wilson and Wilson (1970) reported that subjects with high anxiety learned better with induced muscle tension using a dynamometer, whereas low anxiety subjects scored better in a relaxed situation. This apparently contradicts the findings of other studies that show that high anxiety subjects show impaired performance on complex learning tasks (Spence, 1958; Tecce, 1965; Denny, 1966; Spielberger & Smith, 1966).

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*Paper given at the American Psychological Association Convention in New York, September, 1979.

Wilson and Wilson (1970) pointed out a possible problem with many of these studies; that is, the subjects may have had too little time or training to get actually relaxed or tensed. Consequently, in the present study subjects were trained on an analog electromyogram (EMG) feedback monitor as suggested by Budzynski and Stoyva (1969). This was done for both relaxation and tension training to a performance criterion before the learning trials started.

Other studies besides Lozanov's (1975, 1978) corrorborate that suggestopedia, which emphasizes classroom relaxation along with an expectancy of easy learning, is an effective teaching method in promoting learning: Kurkov (1977), Schuster (1976), Schuster and Prichard (1978), and Racle (1977).

The review of anxiety/relaxation in learning shows considerable complexity. Levonian (1966) reported that anxiety invoking incidents on a film as measured by skin resistance decrements led to short term and long term retention whereas resistance decrements occurring after the filmed incidents led to reminiscence and improved performance. Chaney and Anderson (1972), reported that subjects taught relaxation techniques to control muscular tension performed significantly better on memorization test than the controls. Straughan and Dufort (1969) reported that relaxation interacted with lesson difficulty in producing a beneficial effect for anxious subjects and that relaxation prior to acquisition was better than relaxation prior to recall. Hansen and O'Neill (1970) reported that students responded with the greatest level of state anxiety to difficult task materials and that highly anxious students responded with significantly greater levels of anxiety than low trait anxiety students throughout the task, indicating a complex relationship between the subject's trait anxiety and the difficulty of learning materials presented by computer-assisted instruction. Crawford (1978) reported that subjects with high achievement needs and low failure did better in learning achievement as the instructional difficulty increased. However, the low need for achievement and high fear of failure subjects showed decreased learning with an increase in difficulty. Campeau (1968) reported a significant interaction between anxiety and feedback for girls but not for boys; specifically highly anxious girls did better without feedback. Nall (1973) reported that alpha brain wave training has helped hyperactive children in the classroom to learn, whereas other didactic techniques were ineffective.

The results of the review of the literature led us to generate several hypotheses:

1. Chronic anxiety would affect overall learning adversely, that is, high anxiety subjects as measured by Spielberger et al., Self Evaluation Questionnaire (1968) would do worse than subjects with low anxiety, and with intermediate level anxiety subjects in between.
2. Students who were told that learning the words was going to be fun and easy would do better than groups without this suggestion for easy learning expectancy.
3. Females typically would do better in learning the words.
4. Lists of words that were easy as determinded empirically in

previous research would be learned with higher scores than lists of words empirically shown earlier to be harder than average.

5. State-trait matching would occur for low order interaction. Chronically anxious subjects would learn better if made somewhat more anxious or tense, and conversely low trait anxiety subjects would learn better if made more relaxed during the learning situation.

6. However for high order interactions, pervasive relaxation in the learning situation would help even the highly anxious subjects.

Method

This study used a full factorial analysis of variance (ANOVA) design with between-subjects factors of chronic anxiety level, suggestion, test difficulty and sex of subject. The three within-subject factors were the use of biofeedback-induced forehead muscular tension or relaxation during the three list learning phases of preparation, actual learning and testing.

In the first portion of this study 108 subjects (52 males, 56 females) from beginning psychology courses at Iowa State University were given the State-Trait Anxiety Index (STAI) (Spielberger, Gorsuch & Lushene, 1968). On the basis of the trait anxiety scores three learning groups were formed. The eight females and eight males scoring the highest were placed in the high anxiety group, the eight females and eight males scoring the lowest were placed in the low anxiety group, and the eight females and eight males whose scores placed them in the middle of the separate sex distributions were placed in the medium anxiety group.

The subjects in each anxiety group were then placed into groups of four, by two females and two males, on the basis of the subject's availability. This was done to insure that each group of four would be able to participate at the same time. After all groups were formed, they were randomly assigned to the experimental situation. Thus, there were four groups for each anxiety level, a non-suggestion, low test difficulty group; a non-suggestion, high test difficulty group; a suggestion, low test difficulty group; and a suggestion, high test difficulty group.

The difficulty of the word lists was determinded from previous use of 16 lists of rare English words in experiments. A sample word is "deictic", meaning "pointing out". Each list had two words beginning with the letters B, C, D, F, G, K, L, M , P, R, S, T and one with W. The hardest 16 words of a given letter were placed in the pool of high difficulty words and the easiest 16 words previously were placed into the pool of low difficulty words. From each pool eight lists were constructed by random placement, again based on the initial letter so that all lists again had two 'B' words in them, etc. Therefore, the "easy" groups learned the low difficulty lists of rare English words and the "hard" groups learned the high difficulty lists of rare English words.

The remaining difference in the treatment of the groups was the sugggestion variable. The non-suggestion group went directly from the preparation segment into the learning segment. The suggestion group was given suggestion before each list through "early pleasant learning restimulation" (EPLR), following Schuster, Bordon, and Gritton (1976). This is a Gestalt redintegrative technique that focuses on the bodily feelings, sensations, emotions and thoughts associated with an early pleasant learning situation. Subjects are then requested to learn the present material the same way.

The experimental sessions were the same for all groups except for manipulating the variables described above. The first segment was a training session in muscle tension/relaxation of about 60 minutes. The subjects were trained to induce relaxation or tension in the *frontalis* or forehead muscle. Subjects were hooked up to an electromyograph (EMG) feedback device (Extended Digital Concepts Model 22) and given both visual and auditory feedback. The visual feedback was given through a meter; moving the needle to the left indicated muscle relaxation and moving it to the right indicated increased muscle tension. The auditory feedback was in the form of clicks with increased clicking indicating increased tension. The training was continued until the subjects were able approximately both to double their resting level for induced muscle tension and to halve it for induced muscle relaxation.

Next is quantitative information on our manipulation of asking subjects to increase and then decrease their forehead muscle tension. We naively did not record the necessary information from the EMG monitors in this study proper, but did so in a supplementary study (Schuster & Kelly, Note 1) using exactly the same equipment and procedures. In collecting baseline data for each subject, the sensitivity of that EMG monitor was adjusted for a mid-scale reading and thereafter left undisturbed. Meter readings recorded were, initial baseline, final tension training and final relaxation training. Then a calibrated signal generator set at 400 Hz was used to provide sine wave signal inputs to each monitor to produce the same meter readings as recorded for each subject. The resulting data in microvolts (Peak-to-peak) for the five monitors used are: Increase tension: average = 16.4, SD = 10.9. Baseline: average = 3.9, SD 2.1; and Decrease tension: average = 2.0, SD = 1.2. These data give some confidence that subjects did increase or decrease their frontalis muscle tension as requested in this experiment.

The experimental learning session had three parts, a preparation phase, a learning phase and a testing phase. The preparation phase was five minutes of either biofeedback induced relaxation or tension according to our research design requirements. For the suggestion group this preparatory phase ended with the EPLR; the non-suggestion group went straight from the preparation phase into the learning phase.

The learning phase entailed presentation of the word list. The words and definitions were read at five second intervals while subjects also looked at the list before them. Additional time was given for the subjects to look over the list so that the total presentation time was five minutes. During this phase the subjects were again relaxing or tensing according to design requirements.

The testing phase used a free recall format. The subjects were given an answer sheet that gave the rare word as stimulus for half of the items and the common definition as stimulus for the other half. The subjects were then required to give the appropriate common definition or the appropriate rare word respectively. During this phase the subjects were again relaxing or tensing according to design.

This process of preparation, learning and testing was repeated eight times with eight different lists and under eight different conditions. The relaxation or tension during each phase (preliminary, learning or testing) was varied over the eight lists so as to include all eight of the possible permutations of induced tension/relaxation.

The order of the lists for each group was randomized so that every group went through the lists in a different order to control for minor variations in diffuculty among the eight lists. Also, the variations of the relaxation/tension for the preparation, learning and testing listed above were treated as a ring. A group starting with one combination would go through the ring and end with the immediately previous combination. Each group started at a different point in the ring, as far as possible; no more than two groups started at the same point. This partial counterbalancing was done in an attempt to distribute possible practice effects uniformly over the eight tension-relaxation treatment cells.

Results and Discussion

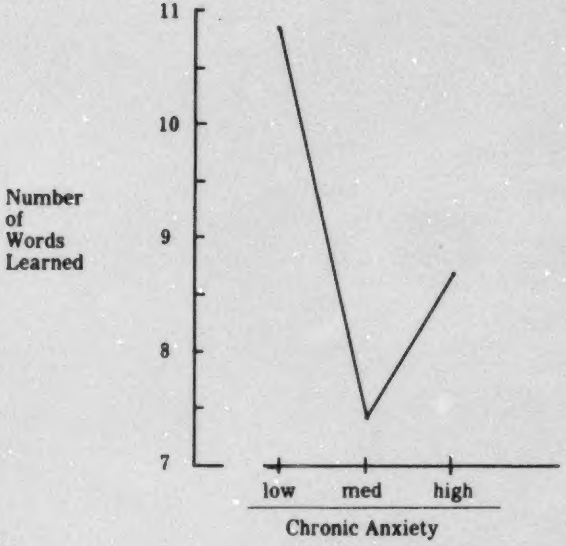
The analyses of variance on acquisition and retention scores indicated a number of significant effects. A significant level of $p < .05$ or better was used throughout this study; occasional differences are noted. Acquisition results are discussed first. There were 126 effects tested for acquistion and thus one would expect 6.3 effects significant due to chance at the 5% level and 1.3 at the 1% level of significance. We obtained 14 effects significant at the 5% level and two at the 1% level. Therefore we would expect somewhat more than half of our obtained results to be valid, repeatable results and the rest questionable. Replication is necessary to tell which is which.

Main effects

The main effect of test easiness as expected was significant and accounted for 4.1% of the total acquisition variance ($F = 6.14$, $df = ½4$, $p < .05$). Lists with easy words were learned with a higher score (Ave. = 10.09) than lists with hard words (Ave. = 7.92).

The main effect of chronic anxiety level was significant, accounted for 7.8% of the variance and is graphed in Figure 1 ($F = 4.13$, $df = 2/24$, $p < .05$). Contrary to previous studies, students who were chronically low in psychological anxiety learned the best. Using the Newman-Keuls a posteriori test, (Winer, 1972), the chronically low anxiety subjects scored significantly better than the chronically medium anxious subjects and almost significantly better ($p < .10$) than the high anxiety subjects.

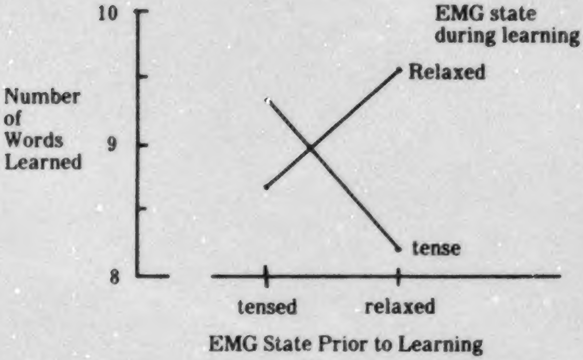
Figure 1. The effect of chronic anxiety on learning rare English words.



Low order interactions

Many interactions were significant. The first two-way interaction to be significant was that between the EMG state prior to learning and EMG state during learning; this effect accounted for 1.3% of the variance and is depicted in Figure 2 ($F = 17.13$, $df = 1/168$, $p < .01$). The Newman-Keuls test showed that these four averages were significantly different from each other if separated by at least one step; that is, adjacent averages were not significantly different from each other. Thus, evidence for state-matching is shown: subjects learned better if relaxed during learning if they had been relaxed prior to learning. Conversely, if subjects had been tensed with muscle biofeedback prior to learning, then they learned better if also tensed during learning. This low order interaction of state-state matching agrees with our hypothesis based on the literature of state-trait matching.

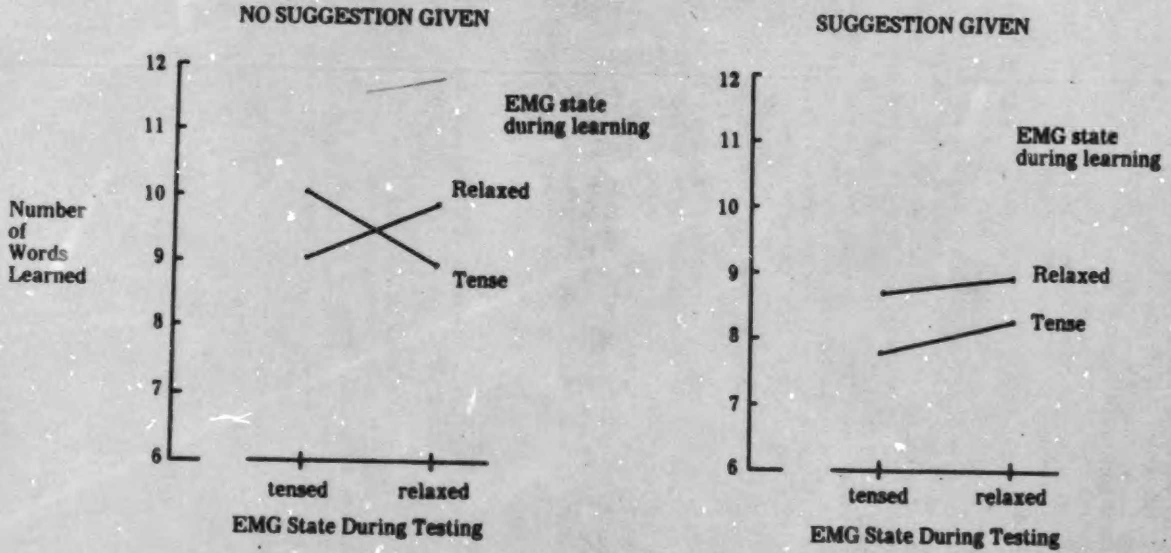
Figure 2. The effects of EMG state prior to and during learning on learning rare English words.



Suggestion and EMG state prior to learning interacted significantly on learning and accounted for only .3% of the total variance ($F = 4.97$, $df = 1/168$, $p < .05$). In this case, learning was significantly worse when suggestion was given regardless of tensing-relaxing than when it wasn't. This was contrary to our expectation based on previous research; thus this may have been a chance reversal and needs replication.

The independent variables of suggestion, EMG state during learning and during testing interacted significantly on learning rare English words as shown in Figure 3 and accounted for .3% of the variance ($F = 4.78$, $df = 1/168$, $p < .05$). Using the Newman-Keuls test, only the two topmost means were significantly different from the two bottommost means in Figure 3. However, the interesting part of the interaction itself is when no suggestion was given, a double state matching occurred; that is, when subjects were relaxed both times they learned better than if mixed, and conversely, they learned better if tensed both times. However, when suggestion was given this state matching did not occur, and the tensed condition was uniformly worse than learning in the relaxed condition. A possible interpretation is that EPLR suggestion undid the state-state matching without such suggestion.

Figure 3. The effects of suggestion, EMG state during learning and during testing on learning rare English words.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The independent variables of chronic anxiety, test easiness and EMG state prior to learning interacted significantly on learning rare English words, accounting for .3% of the variance ($F = 4.35$, df = 1/168, $p < .05$). Using the Newman-Keuls test, the chronically low anxiety subjects, whether tensed or relaxed prior to learning on an easy test, learned significantly better than the medium anxiety subjects on any easy test; this differential was absent on the hard test. The interaction appears to have occurred for the facilitation given chronically low anxious subjects by an easy test and partially so for high anxiety subjects.

The variables of chronic anxiety, test easiness, and EMG state during testing interacted significantly and accounted for .4% of the variance ($F = 5.72$, df = 2/168, $p < .05$). The interpretation is identical to what it was in the previous interaction. This is, chronically low anxiety subjects differed insignificantly among themselves whether tensed or relaxed on an easy test; these low anxiety subjects were significantly better than any of the other averages. The chronically anxious subjects learned significantly better on an easy test than on a hard test. The intermediate anxiety subjects showed no difference here.

The independent variables of chronic anxiety, EMG states prior to learning and during learning interacted significantly on learning rare English words, accounting for .25% of the variance ($F = 3.02$, df = 2/168, $p < .05$). Using the Newman-Keuls test, several averages were significantly different from each other. This time the chronically low anxiety subjects learned the same regardless of the other conditions. The chronically high anxious subjects learned significantly better when tensed prior to learning and during learning than they did when relaxed both times. The converse was also shown, the high anxiety subjects learned better if relaxed both prior to learning and during learning than when tensed one time and relaxed another. In other words, chronically anxious subjects showed improved learning under double state matching. In addition, the medium anxiety subjects also learned better if they relaxed prior to learning and during learning. This figure shows some reversal of state-trait matching for highly anxious and moderately anxious subjects.

The independent variables of suggestion, test easiness, and EMG state prior to learning interacted significantly on learning rare English words and accounted for .4% of the variance ($F = 5.55$, df = 1/168, $p < .05$). The Newman-Keuls analysis showed several significances. A hard test given with suggestion was appreciably worse than a hard test given with no suggestion. When an easy test was given without suggestion, subjects learned better if tensed than when relaxed. An easy test without suggestion was learned better under tension prior to learning than under relaxation; an easy test with the "easy" suggestion was learned better under relaxation than tension prior to learning.

The variables of suggestion, sex of subject, and EMG state during testing interacted significantly on learning rare English words, accounting for .3% of the variance ($F = 4.24$, df = 1/168, $p < .05$). The Newman-Keuls test showed that males learned significantly less well than females when suggestion was given, but there were no differences without suggestion. While we expected males to do less well in general, we can't explain this interaction; perhaps it was chance.

High order interactions

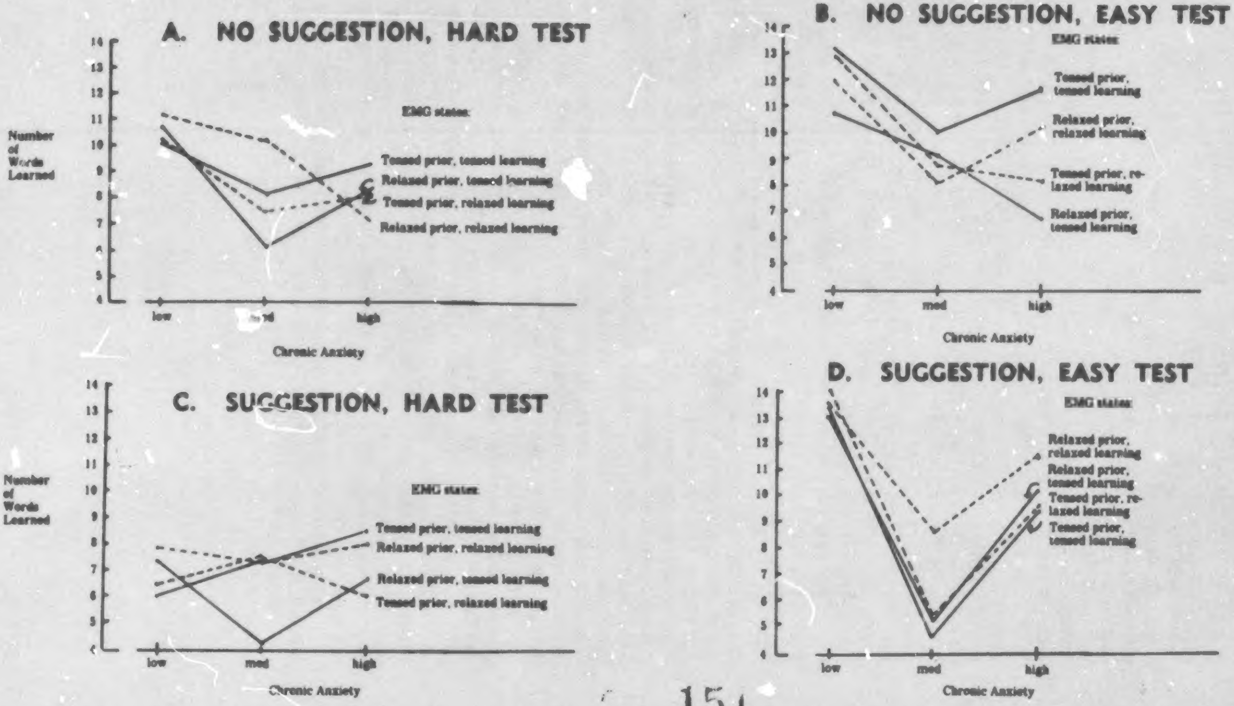
The variables of chronic anxiety, suggestion, test easiness, and EMG states prior to and during learning interacted significantly on learning as shown in Figure 4, and accounted for .2% of the variance ($F = 3.97$, $df = 2/168$, $p < .05$). Newman-Keuls tests were performed, but with so many averages or means (48) there were no low order significant differences; averages only a few levels apart in Figure 4 are not significantly different from each other. However, there were estimated significant effects from the highest means to the lowest means. An estimate had to be made here because the reference table (Winer, 1972) for the significance of differences using the Newman-Keuls test stopped with 15 means, but the nonlinear tabular trends were extrapolated to make the above statement; it is felt to be conservative. The interpretation of how to interpret a 5-way interaction is not easy. The gist of the interaction appears to lie in the change away from state-trait or state-state matching for chronically anxious subjects in Part A without suggestion on a hard test, to an interpretation that relaxing subjects throughout the learning process facilitates learning. Thus in Part D with suggestion and an easy test, the chronically anxious subjects learned best when relaxed prior to and during learning in contrast to Part A. The intermediate conditions in Parts B and C of Figure 4 show some evidence again for state matching and best learning.

The variables of chronic anxiety, suggestion, test easiness, EMG states prior to learning and during testing also interacted significantly on learning and accounted for .3% of the variance ($F = 4.24$, $df = 2/168$, $p < .05$). As with the previous figures and extrapolating from the Newman-Keuls test, there were no differences among averages just a few steps apart, but there were high order significant differences such that the higher averages are significantly different than the lower averages. The interpretation is that there is a shift away from a state-trait matching without suggestion and a hard test, to the best condition with relaxation for even chronically anxious subjects. With suggestion and an easy test, even chronically anxious subjects when relaxed prior to learning and during testing did appreciably better than when they were tensed prior to learning and during testing. To save space, this figure is not shown, but it is quite similar to Fig. 4.

The variables of chronic anxiety, suggestion, sex of subject, EMG states during learning and during testing interacted significantly on learning accounting for .2% of the variance ($F = 3.80$, $df = 2/168$, $p < .05$). As before, the Newman-Keuls test showed no means were different if separated by just a few steps, but that means separated by many steps were significantly different from each other. Low anxiety and high anxiety male subjects learned better without suggestion; in contrast, low anxiety and high anxiety female subjects learned better with suggestion than without it.

The variables of suggestion, test easiness, EMG states prior to and during learning and during testing interacted significantly on learning and accounted for .2% of the variance ($F = 3.90$, $df = 1/168$, $p < .05$). Newman-Keuls tests were performed a posteriori and showed, as usual, that means were significantly different than others if separated by many steps. Without suggestion on a hard test, subjects did better according to state-state matching. Subjects here did better if relaxed prior to learning, during learning and during testing; the converse was also true, these same subjects did better if tensed prior to and during learning and during testing. For subjects without suggestion and on an easy test, an intermediate result was obtained. For an easy test with the suggestion that it would be easy, subjects learned best when relaxed as much as possible. Thus these 5-way interactions provide consistent support for the suggestopedic viewpoint that learning is best for all subjects under relaxing conditions and with an "easy" suggestion.

Figure 4. The effects of chronic anxiety, suggestion, test easiness and EMG state prior to and during learning on learning rare English words.



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Now we turn to data on retention, which was checked one week after learning. An interesting overall conclusion is striking: the subjects remembered only 2.6% of the words they had known the week before; the averages were 9.01 and 0.24 words learned vs. retained. The retention distribution was very skewed. As with acquisition, there were 126 effects tested for retention of vocabulary. We found only five significant effects here vs. the 6.3 expected by chance at the 5% level, and only one vs. the 1.3 expected by chance at the 1% level of significance. Therefore, most of our significant retention results were probably due to chance and all need checking via replication.

A general question arises as to whether our use of muscle induced tension/relaxation procedures produced any psychological concommitant. The answer to that is affirmative, as determined in a separate study by Schuster and Kelly (Note 1). This research reported that subjects were successful in changing the level of tension in the forehead significantly up or down as requested after short electromyographic feedback training, and that the State Trait Anxiety Index (Speilberger et al., 1968) showed a corresponding psychological difference between baseline and tension sessions, thus, showing significant correlation and possibly causation of psychological anxiety by physiological tension. Thus, in this present study we can assume that the manipulation of muscle biofeedback induced tension or relaxation did produce a corresponding level of psychological anxiety.

Summary

We want to summarize our results against our previously stated hypotheses.

1. Highly and chronically anxious subjects performed worse than chronically relaxed subjects in learning vocabulary as hypothesized. However, contrary to expectations, the intermediate anxiety subjects were insignificantly worse than the high anxiety subjects in learning.

2. The main effect of the suggestion that learning would be easy and fun was not significant. However a number of significant interactions with the suggestion variable were as expected, providing limited support for this hypothesis.

3. The main effect of sex of subjects was not significant contrary to our hypothesis. However, some of the interactions with the sex variable were significant and in the expected direction, showing limited support for this hypothesis.

4. Lists of easy words as determined previously were learned significantly better than hard lists as expected.

5. In general, when we looked at low order interaction effects on learning, we obtained evidence for state-trait or state-state matching, in keeping with previous research. That is, highly anxious subjects typically did better when tensed in the learning situation than when relaxed. Chronically low anxiety subjects typically did better when relaxed during learning than when tensed. The medium anxiety subjects in general performed worst, but did not perform differently whether tensed or relaxed.

6. In general, when higher order interactions on learning were examined, such as 3, 4, or 5 way interactions, the picture appears to change in favor of overall relaxation. Even the chronically anxious subjects did better when given suggestion with an easy test and when relaxed with biofeedback prior to learning, during learning or during testing. The highly anxious subjects thus ultimately had their chronically tense learning pattern overruled by general relaxation when sufficient

relaxation was given. This supports previous suggestopedic research and not state-trait matching (Lozanov, 1978).

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Die Effekte von Biofeedback induzierter Spannung oder Entspannung, chronischer Angst, Wortschatzeinfachheit, Suggestion und Geschlecht der Versuchsperson auf das Lernen von selten benutzten Wörtern.

Diese Studie untersuchte die Wirkung von Biofeedback induzierter Spannung/Entspannung des Stirnmuskels während des Lernens und Prüfungen, der chronischen Angststufe der Versuchsperson, Wortschatzeinfachheit beim Prüfen, erleichternder Suggestionen und Geschlecht der Versuchsperson auf das Lernen und Behalten von selten benutzten englischen Wörtern. Aus 108 in der Einführung in die Psychologie mit dem Spielberger u.a. Selbstbewertungsfragebogen geprüften Studenten wurden je sechszehn Studenten aus der höchsten, der mittleren und sechszehn aus der niedrigsten chronischen Angststufe gewählt. Jede Gruppe hatte acht männliche und acht weibliche Studenten. Diese 48 Versuchspersonen wurden in einer Stunde trainiert, die Spannung in dem Stirnmuskel mittels elektromyographischer Biofeedbackmonitoren zu verdoppeln oder zu halbieren. Die Lernaufgabe bestand aus 25 gepaarten Verbindungen von selten benutzten englischen Wörtern und deren allgemeinen Bedeutungen. Versuchspersonen versuchten für zehn Minuten, die 25 Wörter auf der Liste zu lernen, und die Erwerbungsprüfung wurde gleich anschliessend gegeben.

Es gab viele bedeutungsvolle Effekte auf die Erwerbung, und diese führen zu zwei Schlußfolgerungen. Erstens kam Zustand-Neigung oder Zustand-Zustand Entsprechungen vor. Die sehr ängstlichen Studenten taten bedeutsam besser, wenn sie in der Lernsituationen gespannt waren, als wenn sie entspannt waren. Das Gegenteil galt für die Versuchspersonen mit der chronischen niedrigen Angststufe. Zweitens, für Interaktionen einer höheren Ordnung begüngstigten die Ergebnisse bedeutsam die allgemeine Entspannung entsprechend den suggestopädischen Begriffen. Selbst die chronisch ängstlichen Versuchspersonen taten besser, wenn ihnen mit einer leichten Prüfung Suggestion gegeben wurde und wenn sie sich vor dem Lernen, während des Lernens und der Prüfungen durch Biofeedback entspannt hatten. Einige bedeutungsvolle Effekte für das Behalten kamen vor, aber die Interpretation wurde durch die im allgemeinen niedrige Gedächtnisstärke nicht klar.

Los Efectos de la tensión o relajación inducidas por la Bio-regeneración, la ansiedad crónica, la facilidad en el vocabulario, la suggestion y el sexo del individuo en el aprendizaje del vocabulario poco usado.

Este estudio investigó los efectos de la tensión/relajación inducidas por la Bio-regeneración del músculo de la frente durante el aprendizaje y la comprobación, el nivel de la ansiedad crónica del individuo, la facilidad con examenes del vocabulario, la posibilidad de facilitar las sugestiones y el sexo del individuo en el aprendizaje y la retención de palabras inglesas pocas usadas. De ciento ocho estudiantes del curso principiante de psicología examinados con el cuestionario de Spielberger et al. de autoexamen, dieciséis individuos con un alto nivel de ansiedad crónica fueron escogidos, dieciséis del nivel intermedio, y dieciséis del nivel más bajo, siendo la mitad varones y la otra mitad mujeres en cada nivel. Los 48 individuos fueron entrenados en una hora a doblar o reducir más o menos por la mitad la tensión muscular de la frente con la ayuda de monitores electromiográficos de bio-regeneración. La tarea de aprendizaje consistió en veinticinco pares asociados de palabras inglesas poco usadas y sus significados normales. Los individuos pasaron diez minutos tratando de aprender las 25 palabras de una lista, con el examen de adquisición tomado inmediatamente después.

Había muchos efectos significativos en dicha adquisición que resultaron en dos conclusiones importantes. Primero, ocurrió el emparejamiento de estado-característica o de estado-estado. Por lo general, los individuos muy ansiosos salieron mucho mejor cuando estaban tensos en la situación de aprendizaje que cuando estaban relajados. Lo contrário fue cierto para los individuos con un nivel bajo de ansiedad. Los individuos del nivel intermedio salieron peor a pesar de la tensión o la relajación inducidas. Segundo, para interacciones de un nivel más alto, los resultados estuvieron significativamente a favor de la relajación completa según los conceptos de la sugestopedia. Aun los individuos con la ansiedad crónica salieron mejor cuando se les sugestionó con un examen fácil y cuando estaban relajados con la bio-regeneración antes y durante el aprendizaje y durante el examen. Unos efectos significativos ocurrieron en cuanto a la retención, pero la interpretación fue desacreditada por las notas generalmente bajas que adquieron.

Les effets de la tension, la relaxation, l'état mental, la facilité d'apprendre, la suggestion et le sexe du sujet sur l'apprentissage des mots anglais rares

Dans cette enquête sur l'apprentissage des mots anglais rares, on a examiné les variables suiventes: la tension et/ou la relaxation, telle qu'augmentée par le biofeedback; l'état mental du sujet; la facilité d'apprendre le vocabulaire; les suggestions positives; le sexe du sujet. D'après le questionnaire de Spielberger et al., on a choisi les sujets parmi les étudiants de psychologie (premier niveau). Seize sujets choisis souffraient habituellement de tension et de stress; 16 sujets etaient generalement très détendus; 16 autres se trouvaient entre les deux extrêmes. La moitie de ces étudiants était du sexe feminin; l'autre moitié du sexe masculin. A l'aide du biofeedback, ces 48 sujets ont appris soit à augmenter leur tension, soit à la réduire. Ensuite ils ont passé dix minutes à apprendre le sens de 25 mots anglais rares. Tout de suite après, ils ont eu à passer un test. Au début, les sujets qui souffraient habituellement de stress et de tension ont ameliore leur faculté d'apprentissage lorsque cette tension a été augmentée. Ces étudiants qui ne souffraient pas de tension ont mieux fait aux tests lorsqu'ils se trouvaient dans un etat de relaxation profonde. Les étudiants qui se trouvaient entre les deux extrêmes (tension/relaxation) ont eu les plus mauvais resultats. Cependant, à force de répéter ces expériences, on a trouvé que la relaxation et les suggestions positives ont produit les meilleurs résultats chez les étudiants.

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Owen L. Caskey
Englewood Cliffs, N.J.:
Educational Technology Publications, 1980.

Reviewed by Kay U. Herr
Colorado State University

Persons seeking information about SALT and suggestopedia have often had difficulties finding easily accessible material that is well-written, thorough, readable, and practical. This dearth in resource material is filled by Owen Caskey's recent publication, *Suggestive-Accelerative Learning and Teaching*.

Caskey notes in the foreword that he intends to provide explanation of both the theoretical basis and practical application of SALT, no slight task in view of the complexity of the subject and the general education public for whom the volume is intended.

After a concise introduction on the past and present applications of SALT and its historical base of suggestology, the author proceeds to a discussion of the theory behind SALT in the longest chapter of the book, "Operational Description." The reader will be pleased that Caskey avoids the enticing trap of an unnecessarily obtuse theoretical explanation, which would have defeated the purpose of the volume. This chapter is structured upon a lucid explanation of ten principles of SALT and closes with a description of the sequence and schedule of a typical SALT class.

Interspersed in the explanation are sage comments that reflect Caskey's awareness of the necessity of considering practicality when adapting the suggestopedia-based SALT method to American education. He mentions, for example, the reality of pitfalls in the usage of music and the difficulty of acquiring or preparing materials. The reader senses that, in Caskey's opinion, awareness of SALT principles would enhance American education with or without implementation of the methodology. For example, in the presentation on whole-brain learning, Caskey comments, "If schools are to provide optimum cognitive opportunities for children to develop, it will necessitate additional types of experiences and modification of some methodologies. In a more general vein, it has been observed that the typical classroom rigidity needs to be relaxed...." (p. 29)

Following the operational description is the final chapter "Design Format and Outcomes", in which the author, while recognizing the difficulties of translating theory into practice, gives very useful and practical information on how to employ SALT methodology. Included are directions for physical relaxation, mind-calming, and fantasy-trip exercises among other activities as well as explanations of application in several subjects at various educational levels. However, Caskey goes beyond the boundaries of disciplines when he presents, for example, SALT methodology as applied to concept development. While this reader missed illustrations from the post-secondary level, this is not to be identified as a criticism since the work was designed as an outreach to the general education public. There is also a very useful appendix with suggestions for musical selections and additional exercises.

In summary, this volume is a very welcome addition to resource material about SALT. Those who are well acquainted with the methodology will find it useful as a quick reference work, and it is an excellent starting point to commend to persons seeking to inform themselves about SALT.

J. of the Society for Accelerative Learning and Teaching, 1980, 5(4)

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Compiled by Earl W. Stevick

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To read the articles, locate the appropriate journal in the library nearest you. Documents may be read on microfiche in institutions with an ERIC collection, or ordered from:

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3520 Prospect Street, N.W.

Washington, D.C. 20007

ERIC Numbers

The *SALT Journal* has been microfilmed and is available with the following ERIC numbers:

1976, 1(1): 180-234, 1(2): 180-235, 1(3): 180-236, 1(4): 180-237.
1977, 2(1&2): 181-723, 2(3&4): 165-460.
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ISSN 0272-622X: Volumes 1-4, as *Journal of Suggestive-Accelerative Learning and Teaching* .

ISSN 0273-2459: Volume 5 & beyond, as *Journal of the Society for Accelerative Learning and Teaching* .

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THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Volume 6, Number 1 Spring, 1981

Published by the Society for Accelerative Learning and Teaching, Inc.

ISSN 0273-2459

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE

LEARNING AND TEACHING

Volume 6, Number 1 Spring, 1981

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For subscription, send form to: SALT Journal, Psychology Department, Iowa State University, Ames, IA 50011.
Subscription rates : $20.00 per year, individual subscription; $36.00 for two years. Outside U.S. add $11.00 per year for air mail; (Canada and Mexico, same as U.S.)
Back issues : $7.00 per copy, $12.00 per doubled copy. List of available back issues sent on request.

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Printed in the U.S.A.

J. of the Society for Accelerative Learning and Teaching, 1981, *6(1)*

Suggestopedia and Its Application to the Education of Children with Learning Disabilities*

Phyllis Perdew Brownlee

Abstract

Some children diagnosed and labeled as "learning disabled" may instead be "decisionally disabled" and/or be responding inappropriately to stress. Components of Suggestopedia and techniques similar to some of the components (such as hypnotherapy, relaxation therapy, biofeedback, positive self-suggestion) have been shown to bring about remarkable changes in children with learning problems.

Improved academic achievement, improved physical and mental health, improved attention, reduced hyperactivity and, in some cases, even the removal of the label "LD" have been some of the changes reported in research and observed by teachers and students themselves.

The author concludes that the use of suggestopedia and similar techniques needs serious consideration and inclusion in both the regular and special classroom.

Purpose of This Study

A number of researchers, teachers and experimenters have investigated the writings of Dr. Georgi Lozanov concerning suggestology and suggestopedia. Many have applied what they understand to be the theory of suggestology through very specific techniques and practices in the teaching of foreign languages and other subjects. Fewer still have applied theory and practice with the special population of students identified as having learning disabilities.

Because many components of suggestopedia and SALT address some of the prevalent problems or characteristics of a learning disabilities population, namely, hyperactivity, limited attention span, low self-esteem, anxiety related to school, poor ability to cope with stress, development of disfunctional defense mechanisms, and varying degrees of frustration brought on by school failure, it was felt that a close examination of Suggestology and its American version, SALT (Suggestive-Accelerative Learning and Teaching), was in order. The author found that there were many similarities between Suggestology and SALT, and techniques used in hypnotherapy for children with learning problems, those using relaxation training and biofeedback.

Because the various methods mentioned above have been used successfully with small populations of learning disabled children, it is the author's opinion that these techniques will work with even larger populations of so-called learning disabled and may be successful in isolating that portion of the learning disabled population who are not specifically disabled because of physiological-neurological impairments. These children may well be disabled because they learned to be so. Someone decided they were disabled and they complied; their disabling behaviors (impulsivity, hyperactivity, anxiety, short attention span) may actually be part of their coping or defense mechanisms they learned to use when confronted with academic material they were not ready for. Helping these children function to their fullest capacity should be the goal of any regular or special educator. If there is a technique or teaching strategy which will help these children decide that they can learn and that learning need not be frustrating, then they can be helped to develop to their full potential.

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*This paper is a condensation of a thesis for the Master of Education degree, Marquette University, 1980.

As a research question, the author questioned why, how and under what special conditions suggestopedia can be used with the learning disabled population and if in fact suggestopedia has the potential to help to sort out those children who for a variety of reasons can actually function quite well in the regular classsroom and no longer need to be labeled as "learning disabled."

Application of Suggestopedia to Learning Disabled Children

Introduction

Aspects of suggestopedia especially applicable to children with learning disabilities are: physical relaxation, mental relaxation, developing ability to concentrate for long periods of time, visualizing and using images, learning to modify one's behavior, reducing negative feelings and thoughts about one's self, developing more positive feelings and thoughts about one's abilities and counteracting the numerous negative messages about one's learning potential.

Many children diagnosed as "learning disabled" are labeled that on the basis of a number of observable behaviors as well as measures of intelligence, abilities, strengths and deficits. Some of the more obvious characteristics are: 1) short attention span, easily distracted, doesn't finish tasks; 2) hyperactive, hyperkinetic, always on the go physically (and presumably mentally); 3) deficits in auditory and visual areas either in the receptive, associative or expressive modes; 4) lowered self-concept; 5) academically retarded at least two years behind chronological age; 6) average or above average intelligence; 7) discrepancies on the verbal and performance subsections of the WISC of at least 20 points; 8) poor memory.

Some or all of the techniques used in SALT have been used by other names, sometimes, with "normal" children, others with the learning disabled in a variety of projects, individual teachers' attempts to find something that worked, as well as controlled experiments which were part of someone's master's or doctoral work. The author will explore the studies which have been done, their effectiveness and what this says about our education of children with learning disabilities.

The author contends that some children are actually what she calls "decisionally disabled", deciding at a very young age, and mostly unconsciously, that they are incapable of performing as well as other children. Sometimes this view is reinforced and supported later on by parents, teachers, peers or the child herself as she measures her successes or failures against those around her and against the expectations made of her either by herself, her parents or her teachers. Sometimes this view is even initiated by parents or teachers by such comments as "Oh, you're just like your dad - he can't spell either." "Your sister couldn't read either."

Barriers Revisited

The three anti-suggestion barriers speak well to the child who would be classified as "decisionally disabled."

> If an educational system succeeds in liberating the pupil from fear and from the routine

> social suggestive norm of his limited powers and is brought into line with psychophysiology, it will easily achieve its other pedagogical aims. But the difficulty arises not so much from considering how to bring about the initial liberation, but how to create a system of sustained, continuous inner liberation. The pupil's confidence in his or her own capacities for learning should grow constantly and in this way instruction gradually develops into self-instruction. (Lozanov, 1978, in Pollack, 1979, p. 27).

Prichard (1978) says very well the dilemma a learning disabled child is in, when confronted with suggestions that learning is fun, easy and that he will learn more, faster and better than he has ever before. Each of the three barriers mentioned in Prichard (1978), - the logical/-critical, the intuitive/emotional, and the ethical/moral all have separate but specific protective roles.

Special Considerations

Introduction

Failure, frustration, anxiety, hyperactivity, emotional difficulties, cognitive change, attitude change, the unconscious mental processes, and the use of imagery in facilitating memory are all areas discussed by Nelson (1979) in her study of the use of suggestology with a group of learning disabled children. In general, failure and the subsequent frustration, loss of self-esteem and lowered self-concept are familiar to those who work closely with children with learning disabilities. Not only is the child affected and concerned but so are his or her parents and teachers. Which came first, the learning difficulty or the emotional difficulty? In Quadfasel and Goodglass (1968), it is noted that it is almost inevitable that, at least in this culture, a child with a severe reading handicap will develop an emotional disturbance. Most educators would contend that the emotional disturbance and its effect on the student's performance is primary. Complicated by this is the fact that certain traits are shared by both children whose primary disfunction is learning originated and those whose primary disfunction is emotionally originated, such as anxiety, fear, various maladaptive behaviors, and poor self-concept.

Anxiety, Fear

In the observation of some (Klasen, 1972), "psychological difficulties increased in direct proportion to the duration of unrecognized and untreated learning problems and that psychologically caused dyslexia is extremely rare." Connolly (1971) states that anxiety is a characteristic found in the learning disabled population with great frequency. A very good definition of this kind of anxiety, especially as seen in the learning disabled population, is that "anxiety is defined as a primary response of an organism frustrated by its own incapacities and by the inadequate efforts made to meet its needs." (Bender, 1956). Herr (1978) also points to anxiety over grades, shyness when called on to respond orally, as well as the older student's awareness of such concerns as national and global economy, and social and environmental problems. All are sources of anxiety.

Telling a student that a subject is "going to be hard, but..." is a direct suggestion which may have a negative impact and set up a learning barrier. Herr suggests instead of the teacher's saying something is going to be hard or "don't worry if you make a mistake", that the teacher can suggest that less than perfect student performance is acceptable and normal, thereby circumventing the need to become anxious.

Many are familiar with Holt (1964) and his views that there is a large amount of fear associated with the school experience. In the learning disabled child, this fear translates to such things as fear of failure, fear of disappointing one's teachers and parents, fear of ridicule from teachers and peers, and inability to compete adequately with one's peers.

Anxiety and its affects on learning have been studied along with research on the effects of relaxation in connection with anxiety and task difficulty. (McKeachie, 1974; Sarason, 1972; Straughn and Defort, 1969; and Cheney and Andreason, 1972). More anxious students seem to learn connections with familiar material better than less anxious students under stress, except that the more difficult the material becomes, the better the performance of the less anxious students in a non-stressful condition (McKeachie, 1974). Straughn and Defort (1969) found relaxation had a greater effect on the learning of high difficulty words than low difficulty. Relaxation prior to learning was superior to relaxation just prior to recall. Both were more effective than no relaxation, tension and/or neuromuscular control in mental performance. Cheney and Andreasen (1972) found that subjects taught progressive relaxation techniques in order to control neuromuscular tension performed significantly better on the final test than did the controls.

Two studies of importance to the area of learning disabilities are those of Cheney and Andreason (1972) and Perebom (1977). Both showed that physical relaxation or periods of relaxation therapy aided in the improvement of behavior (Perebom) and performance of a random numbers recall test (Cheney and Andreason, 1972).

Physical relaxation has an extensive history in medicine, psychology, psychiatry and education. Jacobson, as early as the 1930's, developed a technique of progressive muscle relaxation which was based on the theory that thoughts and feelings were actually located in the peripheral musculature.

Nelson (1979), points out that much of the current research on the use of relaxation with children with learning problems has been geared toward behavioral improvement, whereas the use of relaxation in the suggestopaedic approach is toward accelerated learning and psychophysiological benefits. Many of these studies are discussed later in more detail.

Avoidance Behaviors, Defense Mechanisms

As in any other properly functioning organism, anxiety becomes the source of avoidance behavior and helps set the stage for the development of a whole repertoire of defense mechanisms. Connolly (1971) finds that a child with learning disabilities compounds his situation by the establishment of defenses which serve in effect to help the child account for his failures. ("I can't read because I can't sit still.")

a) Cognitive Change:

A number of things change through this adaptive or maladaptive behavior. These defenses to avoid anxiety or the situations which produce anxiety. One of these changes is on the cognitive level. A child who exhibits a learning disability may eventually think of himself as being inferior and slow and behave that way long past the time when his disability is an important factor in his functioning. (Nelson, 1980).

b) Attitudinal Change:

Another change is in the area of attitude. A child who continues to experience frustration and failure at particular learning tasks will begin to develop very intense negative feelings toward that particular task or toward school. Eventually the student decides there is probably no use in trying because he is going to fail anyway. Working with both the cognitive and attitude changes is a difficult task for the teacher. The anti-suggestive barriers of suggestology are working overtime with these children, and more care and time are necessary to help them experience the fun and ease in learning which is possible with the use of suggestopedia

In connection with the before-mentioned information on avoidance techniques, Held (1976) in his study with disabled readers found that three techniques were effective in overcoming the avoidance behaviors: mind-calming, imagery and positive suggestion. In Schuster, Bordon and Gritton (1976), a combination of physical relaxation, mind-calming exercises and recalling an early pleasant learning experience were a successful combination in helping students learn material more efficiently.

Self-Concept and Belief Systems

Another key area to working with children with learning disabilities is the area of self-concept. As mentioned before, the learning disabled child who finds herself in a setting where she is unable to perform or compete with her peers is likely to feel frustration and anxiety. Since the human organism feels anxiety as a negative emotional state, the child soon develops certain problems (stomach aches, headaches, inattentiveness, restlessness, clowning, disruptive behavior, etc.) Along with this, and key to the use of suggestology, is the area of altered beliefs and feelings. The child oftentimes no longer feels good about himself, believes that in fact he must be a dummy and then starts to behave on that "belief" and continues to behave in a fashion to support that belief. Being able to excel at learning is antithetical to this belief, and that's where the area of the anti-suggestive barriers comes into play. The barriers are best dealt with, or circumvented by a positive, supportive atmosphere in the classroom and by the acknowledgment and use of the six suggestopedia elements - authority, infantilization, double planeness, intonation, rhythm and the pseudo-passive state.

Lozanov theorizes that our belief systems are formed from suggestive factors received on unconscious levels from the environment and within the communication process (Nelson, 1980). If that is the case we can use that mechanism to our advantage. Rearrangement of the environment and awareness of our unconscious and subtle peripheral messages are both things we as teachers need to be more aware of and specifically trained to use in a constructive manner.

Specific Cases in the Applications of SALT to Learning Disabilities

As a result of intellectual curiosity, personal philosophy and particular teacher job placement, a small number of dedicated teachers have experimented with the use of SALT techniques with the special population - learning disabled. These studies, results and conclusions follow.

Tutoring - Charles Gritton

In his early investigation of the Lozanov method, Charles Gritton (Schuster, Bordon and Gritton, 1976) used the method with two eighth grade students 3 hours a day for four days. Both students were identified by a school psychologist and their parents as learning disabled with particular difficulty in math. Spelling was also identified by the students themselves as an area of difficulty. In his subjective account, Gritton tells of how, initially, the two students were willing to take their spelling pretest, but absolutely refused to even try the mathematics. Within four days they were not only doing well on the list of 200 spelling demons, checking their own papers, making comments such as "It's fun to learn, it's easy to learn, there's nothing to learning," (p. 2) but they were even teaching math to each other, quite to Gritton's amazement! In those four days, each student went up two grade levels in four days. Currently both are in junior college and had finished in the top half of their graduating high school class! (Schuster, 1980, Madison).

Ninth Grade Reading and Mathematics
Schuster and Vincent

Schuster and Vincent (1980) studied the effect of SALT in teaching mathematics and reading to learning disabled low socioeconomic ninth grade students. The SALT method was used during one school year, just one-tenth of the time by a teacher who had been trained in a 120 hour summer workshop. They found significant practical improvement in both the Key Math (average gain = 1.4 years) and Woodcock Reading tests (average gain of 2.2 years). This experimental class also exhibited improvement in a student-teacher affective relations score.

Fourth Grade Multiplication - Shultz

Another study was done by R. A. Shultz (1978), in which the researcher evaluated the SALT method in teaching multiplication to fourth grade children with learning problems. At the end of the experiment the four SALT-taught children exhibited significant time improvement from pretest to posttest in a criterion-referenced math test.

Observations, Tutoring - Pollack

Bulgarian Classroom Observation

Cecelia Pollack visited classrooms in Bulgaria where the Lozanov method was in use. Upon inquiring about where the slow kids were, she was told that the educators do not believe that intelligence is either innate or centrally controlled and, as a result of that belief, they do not use either IQ tests or standardized tests for tracking children into ability groups. Instead, certain curriculum standards are set for each grade and promotion occurs upon completion of attaining those standards. For the child who learns at a slower rate, special language teachers or "logopeds" are called in to help in special cases; while other children are helped with supervised homework and individualized remediation. The concern of the school is:

> to raise the level of the slow child to meet grade standards by extra individual attention at the first indication of his lagging behind. The strong support he receives prevents his failing (Pollack, 1976).

Application in Learning Disabilities - Randy and Spelling

Following her visits to Bulgaria and study of the Lozanov method, Pollack decided to employ it with dyslexic children. Based on her experience in diagnosing, remediating and observing such children over many years, she found that a large percentage of them appeared to intuitively turn toward activities associated with the right hemisphere. "Their vivid imagination, so counter-productive in a traditional classroom, might be the key to learning the structure of language another way - the suggestopedic way. Could their tendency to daydreaming be put to good use in a relaxing situation?" (Pollack, 1980, p. 9)

Her first subject was Randy, a ten-year old boy diagnosed as having a specific language disability who had very poor retention for spelling words, especially those with irregular sound-symbol relationships. In her description of her work with Randy, Pollack, (1980) refers to a personalized guided imagery script which was full of positive motivational suggestions, relaxation, appropriated music background and the 20 words he had misspelled on a pretest.

Randy's task was to sit comfortably in a reclining chair with his eyes closed and listen to music. During this time he was to vividly imagine himself in the situation described in the script and see himself trace each of the twenty words on the beach sand with a "magic" pencil he had found. Upon completion of this task, Randy was retested on the twenty words; and to the astonishment of both teacher and student, he spelled 18 out of 20 correctly! On a re-test given one week later, he retained his score with no practice during the week. His comment afterward was "Boy, that felt good!" (Pollack, 1980, p. 9).

Continuing Developments and Materials

On the heels of her success with Randy, Pollack (1980) began employing elements of Suggestopedia with other dyslexic children, tailoring the guided imagery to suit the particular concept to be taught or material to be memorized. In her words, "I grew to expect the successful results I was getting. This was important, for teacher expectations of successful learning are crucial to the system." In her own enthusiasm and exploration for appropriate teaching materials, Pollack began writing lyrics about the "Sounding Alphabet" to go with her Phonic Readiness Kit of little objects (Pollack, 1979). In collaboration with a musician friend, the two set the lyrics to music and have had it published by Folkways' Records this past year. (See Glick and Pollack, 1979.)

Following that came a script teaching word anaylsis with prefixes, stems and suffixes; humorous motivational introductions to phonic lessons; and a system of creative phonics which made a game of writing silly stories containing pre-taught phonograms. Her current project is a script to teach English to Hispanic kindergarten children in 30 days through music, art and dance.

In her closing remarks, to her audience at an Orton Society lecture, Pollack (1980) aptly states that "Suggestopedia owes its value to being a creative process that harnesses human energy through music, art, poetry and the best and most humanistic aspects of our culture for the purpose of realizing new and expanded levels of human potential."

Retention of Unknown Words - Nelson

Design

In a recent study, Nelson (1979) researched the question: For 6 to 8-year old learning disabled children, is there a difference between the effectiveness of the Lozanov approach versus the traditional approach in facilitating retention of unknown words? Independent variables were sex, reading level, age, relaxation response of the treatment subjects; and sex, reading level and age of the students in the contrast group. Specific objectives were to investigate the effects of the following independent variables on word retention: (a) the treatment combination of mind-calming, (b) imagery and non-attentive learning versus the traditional approach in relation to sex, (c) reading level, (d) age, and (e) relaxation response. Dependent variables were the number of words correctly remembered from a list of 20 words as tested immediately after learning, at the end of the four session experimental phase, and as tested eight days after the conclusion of the experimental phase for delayed retention.

The two objectives of the Lozanov approach which were emphasized in this study were (a) attempting to create a relaxed learning atmosphere by using short relaxation and mind-calming exercises, the expectation being to minimize the external and internal distractions to learning, and (b) presenting lesson material in both attentive and non-attentive states thereby reaching different awareness levels that reportedly contribute to greater learning and retention. In the attentive active part of the presentation, new words were presented on flashcards and both imagery and kinesthetic techniques were employed. In the passive, or non-attentive session, words were again presented with intonation as the students relaxed to a specifically selected musical background. Practice sessions consisted of the use of the words in the format of a variety of games. Students in the contrast group were not given any relaxation or mind-calming exercises, imagery or music.

Results (Nelson, 1979) indicated that the students who could achieve a good relaxation response attained good in-course measurements and reached significant immediate and delayed retention measurements on the criterion material. Significant scores on daily, end of treatment and delayed evaluations were attained by all but one of the students given the Lozanov treatment approach. The contrast students achieved two or three significant in-course measurements; these were not reflected in their end of treatment or delayed retention evaluations.

Results from a different study with reading disabled boys (Prichard and Taylor, 1978) indicate that in 15 weeks of instruction, average gains were that 80% of the students gained a year or more on the Spache oral reading subtest; and 75% made a gain of a year or more on the Spache silent reading subtest during the same time.

When analyzed on the basis of the degree to which the students achieved and maintained a relaxed state (as indicated by eye closure and minimal body movement), it was found that those exhibiting excellent relaxation performed the best (made the most gains).

Taylor and Prichard (1978) conclude that teaching sight word vocabulary through fully explored context (paper and pencil tasks, dramatization and altered-sta tes visualization) in a strongly positive suggestive atmosphere appears to greatly improve children's scoring on the Spache Oral and Silent Reading subtests. It appears to have a lesser effect on tasks such as learning nouns in isolation as measured by the Spache Word Recognition subtest, probably because the vocabulary words tested by the Spache word recognition were generally not those selected from the Barnell-Loft material used in class. The Spache consists primarily of nouns, not of basic sight words as in the Dolch and Barnell-Loft materials.

Concluding their study, the two stated that: the demonstration of increased learning related to the inclusion of a relaxed, music-aided, imagery-filled instructional activity may well further increase public interest in investigating the varied educational benefits of non-ordinary states of consciousness.

Author's Observations and Comments

In the author's visit to Atlanta in December of 1979, a few problems were observed which could have an effect on the success of this particular approach. Most of these problems are endemic to the normal public school classroom - absences, changes in the makeup of the groups, interruptions via messengers or the loudspeaker, visitors such as this writer, changes in schedules and irregular weeks.

Some of Jean Taylor's students were learning disabled and in her years of using this technique, she has found that children with diagnosed learning disabilities scored higher gains than the remedial group as a whole. Of course, many of these boys and girls have higher IQ's than the average of my students. (Taylor, 1978, p. 145.) Teacher expectation as well as innate potential may both be operating.

Studies Related to Components of Suggestopedia/SALT

Because suggestopedia is composed of many components, and various studies have been made comparing their effectiveness, this author felt it appropriate to look at a number of studies which have used one specific technique or another either with learning disabled kids, children with learning and/or reading problems, children with disruptive behavior or with the "normal" child in a regular learning setting. Components to be examined are: 1) stress management, 2) relaxation therapy (this includes studies on progressive muscle relaxation, alpha training, and EMG biofeedback training as well as conditions of rest and overt muscle exercises), 3) imagery, 4) verbalizations (self-suggestions; scripts to counteract negative self-concept, positive affirmations), 5) combinations of the previously mentioned, 6) suggestion, and 7) whole brain learning. Things to keep in mind from suggestopedia or SALT are the simultaneous use of the conscious and unconscious; the joy of learning and freedom from tension; the six elements for a suggestive set-up (authority, infantilization, double-planeness, rhythm, intonation and the pseudo-passiveness); whole brain learning ; the three anti-suggestive barriers; physical relaxation exercises; mind-calming; early pleasant learning recall; suggestions to try hard; and non-verbal communication.

Introduction

This author feels it is especially important that those individuals working with children with learning disabilities recognize the possibility that the disability *may be* of functional origin and therefore open to change,. Two large areas of functional origin are 1) inappropriate response to internal and/or external stress and 2) inappropriate beliefs about one's abilities.

Both areas are addressed in suggestopedia. Additionally, a number of studies of both objective and subjective nature have been conducted to deal with the consequences of inappropriate response to stress and inappropriate beliefs.

Stress

One of Lozanov's primary principles dealing with the learning environment is that there should be a joy in learning and that the student should be *free of tension* . As shown in the following section on relaxation, tension and anxiety in children with learning disabilities or learning problems can come simply from the learning environment itself, where they are experiencing repeated failure. The frustration associated with failure can lead to or contribute to the development of various avoidance behaviors and defense mechanisms which then become the focus of attention, further compounding the situation. At the international conference of the Association for Children with Learning Disabilities held in Milwaukee, Wisconsin, in February, 1980, Dr. Noel H. Williams (1980), an assistant professor of education at the University of Windsor, Ontario, spoke to the issue of "Stress and the Learning Disabled Child".

Williams (1980) identified three kinds of stress: 1) physiological or systemic, which deals with the affect of stress on the tissue system; 2) psychological stress, which affects the cognitive factors leading to the evaluation of a situation as being of a threatening nature; and 3) social stress, which involves the disruption of a social unit or system. Williams (1980) goes on to cite the definition of stress proposed by Wolpe and Lazarus (1966): "Stress consists of any event in which environmental demands or internal demands or both tax or exceed the adaptive resources of the individual, social system or tissue system." It can be easily seen that children with learning disabilities can experience all three kinds of stress, although the one most frequently related to the classroom situation appears to be psychological stress.

Williams (1980) goes on to identify six basic symptoms of stress in adults; and with probably one exception, these could apply to stress in children:

1) feelings of chronic fatigue, exhaustion or loss of energy;

2) loss of ability to enjoy recreation or human interaction without first having some chemical substance (not as applicable in young children);

3) increasing irritability, feelings of anger, resentfulness, feeling upset most of the time (this vicious cycle consists of frustrations, failures in school or work which lead to upset, which lead to alienation of the home-base support systems, etc., etc.,);

4) feelings of pressure all the time, feelings of constricture or weight on the chest or shoulders; a sense of constant non-productive motion with concurrent frustration experienced at times when one is waiting in lines, at a traffic light, etc.;

5) feeling distracted most of the time;

6) feeling so depressed that there is no longer any kind of coping behavior to break the cycle of exhaustion and failure.

Many of what Williams identifies as "symptoms" of stress are some of the very same behaviors used as criteria for identifying a child as learning disabled. It would follow then that quite often we are attempting to remediate (via behavior modification and other techniques) those very same behaviors which are the signals that the child is under stress. It would seem more appropriate to deal with the stress initially, if that is what is helping to create a learning disability. This is comparable to a physician's giving a patient tranquilizers and not dealing with the sources of stress.

Williams proposes as a possible solution the early identification of children with learning problems and the various preventive measures we can follow with the young child to help avoid, or partially avoid the subsequent situations which the child will find stressful giving rise to the cycle of stress reactions. He concluded with an early identification model currently in use in Ontario and mentioned its effectiveness in looking at prevention as opposed to cure.

The author had the opportunity to work with a group of teachers in the Milwaukee Public School System in the fall of 1979 in an in-service course on "Stress in the Classroom". Class members and some of their students helped identify the kinds of things which children find stressful at school. These are:

beginning or end of school year beginning or end of the day tests-preparation, taking, results being called names inappropriate expectations peer pressure low self-esteem new school, teacher, room health problems-chronic, permanent, temporary going to principal's office

staying after school parties, plays, musicals field trips recess/lunch sports

change in routine

having things stolen fights, threat of or actual seeing the nurse homework-conflict with family schedule shot day room temperature barometric pressure general health seating arrangement

inadequate clothing (embarrassment) inadequate rest interruptions being ignored taking showers announcements over loudspeaker physical safety

It is the author's experience and opinion, that many of the above-mentioned stressful situations in the classroom could be avoided or their negative impact lessened by using some of the techniques which are a part of suggestopedia - such as the physical relaxation, mind-calming exercises, guided imagery, imagining the positive outcome of a situation, taking deep breaths, seeing oneself as a capable and lovable person, improving class support, etc. A warm, positive suggestive classroom atmosphere as recommended for the maximum effect of material taught suggestopedically could go a long way in the regular classroom, the self-contained special education room, or the resource room.

These same teachers came up with a list of things they can do and are currently doing to help reduce the negative effects of the above-mentioned stressful situations. Included were such things as reviewing material prior to a test, running outside, playing active games, change of air, working with their hands, playing peaceful music, giving praise, acknowledging the stressful situation, using humor, turning off the lights, giving relief time for students to chat with their neighbors, taking a milk break, changing the subject and removing the disruption or disruptor. Expensive, special equipment is not needed nor is the expenditure of a lot of time or energy, yet the payoff far exceeds what was put in.

Relaxation Therapy

Many children with learning disabilities are identified as being hyperactive and impulsive. Accordingly, a number of studies using "relaxation therapy" with hyperactive, anxious or impulsive children are reviewed next, whether or not the children were identified as learning disabled.

Muscle Relaxation with Children

The first study examined (Kwako, 1979) was based on the use of Bruno (1974) and Jacobson's (1938) program of tension/release with a group of 16 hyperactive learning disabled boys ages 8 to 12 years who were attending a special school for children with learning disabilities in the greater Boston area.

Students were tested on the Developmental Test of Visual-Motor Integration, the Motor Accuracy Subtest of the Southern California Sensory Integration (with left hand and right hand components), the Connors Parent/Teacher Questionnaire (a rating scale of hyperactive behaviors), the Sophistication of Body Concept Scale, and the House-Tree-Person. On the t-test data analysis, all the measures indica[illegible] significant change.

Re-doing the data on an analysis of co-variance, the results of the Development Test of Visual-Motor Integration, the Motor Accuracy, and the House- Tree-Person were all significant ($p < .05$) while the others were significant for discussion. On a subjective self-report Kwako noted positive attitudinal changes, an increased attention span, increased balanced expression of emotions, and the viewing of the experimental sessions as a special and positive experience. In summary, improvements were found in visual-motor integration, eye-hand coordination, and self-concept. The examiner and teachers involved in the study also found increased respect for authority.

Mantione (1975) experimented with 12 students exhibiting hyperactive behaviors. Half were put in the rest group, half in the relaxation group, and each acted as his own control. In his extensive introduction and discussion of hyperactivity, Mantione (1975) states the six behaviors most commonly associated with hyperactivity: 1) fidgety, restless; 2) inattentive; 3) hard to manage; 4) cannot sit still; 5) easily distracted; and 6) cannot take frustration. Mantione states that hyperactivity and its maintenance are a result of both operant and classical conditioning. Some of this hyperactivity can be reduced by simply identifying and minimizing the conditioned stimuli, particularly where the hyperactivity is environmentally caused. He further contends that the cycle of hyperactivity starts in some cases with 1) kids who are developmentally unprepared for school and as a result experience frustration and failure; 2) they then develop escape and avoidance behaviors in order to deal with the anxiety; 3) these escape and avoidance behaviors are paid attention to in a negative, punitive fashion; 4) as a result of this attention, they are maintained.

Mantione's (1975) hypothesis is that since research seems to indicate that hyperactive behavior is brought about through both respondent and operant conditioning, and that responses may be elicited by a wide range of minor stimuli and maintained by attention, it follows that a procedure based upon reciprocal inhibition (specifically, muscular relaxation) should result in a decrease in hyperactive responses. Reinforcement of relaxation responses should further reduce hyperactivity.

Questions investigated were: 1) can hyperactive children be taught progressive deep muscle relaxation or rest upon instruction? and 2) if hyperactive children can be taught these responses, does it affect their behavior outside the treatment session?

Results of Mantione's (1975) study showed that 66% of the subjects were able to reduce their off-task behaviors during treatment period to criteria level. Two met the criteria for learning muscle relaxation and two of the four who reduced off-task behaviors maintained their level during post and follow-up phases. In his discussion, Mantione (1975) states that "some hyperactive grammar school children can be taught to relax or rest through the use of operant conditioning if the environmental antecedents and consequences are properly arranged." He also found that reduction of the conditioned stimuli and the creation of a calm, restful atmosphere apparently facilitated non-hyperactive responses during therapy sessions and that these responses were strengthened by positive reinforcement.

In conclusion, Mantione suggests that a wider range of reinforcers be used and that the therapy session be conducted in the classroom once the appropriate behavior has been established. He recommends techniques involving reciprocal inhibition and that they have value in reducing hyperactivity - they are safe and quickly taught to teachers as well as parents, they are inexpensive, they can be easily administered, and children can be taught to relax themselves through these techniques (Mantione, 1975).

Klein and Deffenbacker (1977) report on a study which was done with the use of either relaxation and exercise for hyperactive impulsive children. Pre and post-testing was done on the Continuous Performance Task and on the Matching Familiar Figures test. Two contrasting groups as well as an attention-placebo training group, a no-treatment group and a non-hyperactive control group were used. As in other studies, the hypothesis was that by training children in relaxation, a response pattern would be induced which would be incompatible with heightened activity level; therefore, relaxation and greater calmness would replace hyperactivity. The other hypothesis was that exercise would reduce heightened tension by partial fatigue.

The relaxation group followed a modification of Wolpe and Lazarus' (1966) progressive muscle relaxation. The exercise group worked with a regimen of agility, power, and speed tasks. The attention-placebo training group made various objects from Play Doh. Results were that on the Matching Familiar Figures test, comparisons between me an error rates showed that the relaxation, exercise, and non-hyperactive control groups performed significantly more accurately than the untreated impulsive control ($p < .05$), while the attentional-placebo control was not significantly different from other groups. No significant differences were found for the Continuous Performance Task.

In a description of an experiment to the American Acamedy for Cerebral Palsy, Margaret Pereboom (1977) reported that periods of relaxation therapy, including adapted yoga exercises, were more helpful than periods of tutoring and group counseling in improving the behavior of children with learning disabilities.

Muscle Relaxation with Adults

Chaney and Andreasen (1972) used a memorization test requiring the recall of random numbers with adult subjects. Three different groups of subjects were involved - one trained in body mechanics, one given a placebo pill to reduce neuromuscular tension, and one given instruction in relaxation techniques. The third group, the subjects trained in relaxation techniques to control neuromuscular tension, performed significantly better on the final test than the controls. Tension was induced with the addition of a verbal threat when the subjects were retested.

Wilson and Wilson (1980) report a study also with adults which attempted to test the hypothesis that muscle relaxation would reciprocally inhibit anxiety during a paired-association learning task. Partial substantiation for the hypothesis was obtained for high anxiety subjects, but data for the medium and low anxiety level groups was inconsistent with the hypothesis.

Anxious Behaviors

In his work with Robert, a tense and unsure child reader, David Hart (1974) taught him how to manage his anxiety by practicing relaxation exercises. The student was trained in relaxation, learning the difference between movement and stillness, and between tension and relaxation for each body area being relaxed. Emphasis was placed on changing the child's anxious behavior, rather than on specifically remediating his reading. Behaviors identified were those which involved learning limb and neck muscle relaxation in order to avoid inappropriate "anxious" behavior. Each of the skills was practiced while Robert was reading. As soon as he had demonstrated mastery of a particular skill, such as relaxation of hands and feet, that skill was then practiced while Robert was reading. He was also praised when he was looking at the book being read.

Hart (1974) reports that this four-month program, based on the child's self-control of behaviors which were apparently competing with effective reading, seemed to lead to improved performance during treatment and in class. Scores on the Neale test went from unscoreably low to the 8-year level. On the Burt Graded Word Test scores went from 5.9 years to 7.5 years after only two months of treatment. Hart (1974) proposed that the emphasis on removing surplus distracting behavior was more important than any teaching of reading skills, in Robert's case.

Biofeedback

The rationale for the use of biofeedback/relaxation training is based on the premise that learning is most efficient when the child is internally relaxed and mentally attentive (similar to what Lozanov said, that learning should be a joy and free of tension). Carter (1980) used a treatment consisting of 10 minutes of EMG feedback on the preferred forearm, 50 minutes of handwriting training, listening to 8 to 10 minutes of visual imagery relaxation prior to training sessions, plus home practice of taped relaxation, and followed by a handwriting exercise done three times a week.

Significant gains showed in reading, spelling, auditory memory, IQ, handwriting legibility, observed behavior, and self-concept. There was a decrease of errors on the Bender and there were no gains in arithmetic. Significant gains were shown in all three of the populations used - learning disabled, educable mentally retarded and non-diagnosed manifesting school learning problems.

Biofeedback also was used in the effective treatment of hyperkinetic syndrome in an 11-year old boy (Lubar, in ferguson, 1977). This child was trained in sensorimotor rhythm (SMR), which is associated with enhanced motor inhibition. Lubar found that the child improved in at least eight of the total thirteen behaviors on the Stewart Teacher Questionnaire after several months of biofeedback training while still continuing Ritalin treatment. Lubar states: "So far, it appears that SMR biofeedback is most beneficial for those children in whom the hyperkinetic symptoms are the most pronounced."

Alpha Training

A study by Nall (1973) covers alpha training with the hyperkinetic child. Her initial report shows that one child using alpha training was able to go to sleep with his alpha turned on. He was able to walk instead of run and became a controllable fourth-grader in his classroom. Another child's unreadable writing became legible after alpha development sessions. Some children, after the program, asked the examiners to resume alpha training sessions, claiming it made them work better. Nall reports it is not known whether the improvement came specifically from the alpha training, the special attention, the relaxation or some unknown factor. She does strongly emphasize that someone somewhere needs to find a way to help the hyperkinetic, learning-disabled child whose EEG reads "little or no alpha", whose defenses and barriers are lowered, whose attention is unfocused and whose emotional involvement and judgments are detached from reality. They need to be helped to gain a sense of well-being, tranquility and relaxation as well as increasing their awareness of which of their thoughts and feelings accompany a good alpha wave.

Other

The Quieting Reflex (QR) was discovered by Dr. Charles F. Stroebel in 1974 as an outgrowth of his research in utilizing biofeedback to treat adults with stress related disorders. Dr. Margaret Holland has created a program which teaches young people to use the Quieting Reflex. For the past five years she has worked on educational applications of biofeedback with youngsters with various learning problems.

The promotional literature for the QR For Young People Cassette Program describes QR as a way to cope with stress of all kinds, a way to prevent anxiety and nervousness, a way to keep from tensing up when things go wrong, a six-second technique for reversing inappropriate utilization of the fight-flight response, and a health-enhancing life skill. It is designed to benefit youngsters nine and up. They can be normal, or have learning problems, emotional and/or behavioral difficulties, experiencing test and/or learning anxiety and experiencing stress related health problems.

Youngsters using the QR Program will learn to identify stresses in their lives; recognize their individual body changes that signal anxiety or tension; calm themselves whenever they feel upset, tense or anxious; shift to an appropriate level of physiological arousal in order to enhance their physical or intellectual performance; and substitute a self-enhancing response (the QR) for self defeating responses such as temper outbursts, drug use, violence, head aches and stomach aches.

The Program itself consists of four cassette tapes with six experiential training elements plus 25 reinforcement exercises. The program is said to be able to be taught in ten sessions, and although not necessary, can be used along with biofeedback. An instructors manual and a QR log for recording progress are also part of the kit. Further information is available from QR Institute-South, 8509 N. 29th Street, Tampa, Florida, 33604.

In a final, but by no means minor, study on the use of muscle relaxation with school age children, physical relaxation techniques are taught along with a method of programing for physical, mental and emotional well-being. Additionally, children with specific problems such as learning disabilities are given individualized tapes with affirmations. Last year (79-80) Mary Lachniet, RN, school nurse for the Holt, Michigan Public Schools also worked on an individual basis with a few hyperactive learning disabled children. She met once a week with them and went over a biogenics exercise. Every night they were to listen to an individualized tape. In addition, she taught physical relaxation to a 5th grade classroom. As of November, 1979, she reported that results were encouraging, but that it was too soon to see lasting results.

Expected outcome of the study is reduction of student absences due to illness and an improved self concept as measured by the Tennessee Self Concept Test.

As of July '80, Ms. Lachniet reported that a questionnaire was given one class of 5th graders who were using the technique this year. Eighty-five percent (85%) of the students said they liked the relaxation exercises, many were doing them at home and in other settings, and some (3) were hoping to involve their families in relaxation and positive self-statements.

Imagery

Background on Imagery

At the first annual conference of the American Association for the Study of Mental Imagery, which met in Los Angeles in 1979, speakers and workshop leaders were in the process of redefining imagery to mean more than simply the ability to visualize. A new definition of imagery has been expanded to include internalized sounds, feelings, words, symbols, and even subtle body senstions (Ferguson, July 16, 1979).

One of the conference attendees, Paul Bakan, a researcher of hemispheric specialization, cautioned that we may be oversimplifying our idea of the right brain as being the primary source of imagery (Bakan, in Ferguson, July 16, 1979). In the process of imaging, we use muscular relaxation as a facilitator which itself is controlled by the left brain. The left brain then becomes cooperative in imagery, free association and recall. He further states that different facets of brain organization probably facilitate different modes of imagery. His hypothesis is that the "right brain produces 'raw' images under conditions of relaxation. When the right and left hemispheres are communicating, the 'raw' image gets 'cooked'."

In her paper, Nelson (1980) points out the importance of imagery and its place in the memory process, particularly as applied to children with learning disabilities. What may appear to be poor memory, may, in fact, be the failure to develop a mental image of the word which is to be recalled later. Harris and Sipey (1975) wrote that if there is no initial registration of the word, there will be nothing to remember.

One of the ways in which we remember things is through eidetic images, a phenomenon similar to photographic memory. In the study of child development, Nelson (1980) states that: researchers believe eidetic imagery is the underlying phenomenon of the learning process and tends to diminish in adolescence when abstract thought and higher verbal skills develop.

Imagery and Suggestopedia

In the Lozanov method and its American adaption, SALT, whole brain learning, the use of the conscious and paraconscious, the joy of learning, and freedom from tension are all important components. Imagery and the ability to use all of one's senses - visual, kinesthetic, tactile, aural, and olfactory-provide avenues to the paraconscious and gives us access to our imagination. Whole-brain learning means exactly that - the use of both the logical left hemisphere and the intuitive, creative right hemisphere to increase our capacity to learn and remember.

One of the exercises or techniques in suggestology is to have the individual feel, hear, taste, see, smell - experience to the fullest the material presented, thereby hopefully developing as full and as highly charged an image or impression of the material being presented as possible. The more senses which are used, the more likely an image will be made and the material remembered. Imagery is used in the preparation stage, as a relaxation technique, and as a distraction technique - giving the conscious mind something to do while the subconscious is absorbing the learning material.

Specific Case Studies and Relation to Suggestopedia

Beverly Galyean, a Los Angeles consultant on confluent education, has reported experimental evidence that five minutes of daily guided imagery minimized disruptive behavior in low-achieving students in an inner-city high school. The technique also seemed to enhance their learning. The guided imagery which was used for this study was designed: to help students focus on their inner strengths, view themselves as potentially successful and see the teacher as a helper in their quest for success. (Sounds like guided imagery and suggestions for learning a la SALT.) Students reported their grades and concentration improved, they felt more comfortable in the learning setting and all asked that guided imagery be introduced into other classes. Observers reported that the experimental group became more attentive, involved in lessons and responsive to their teacher. In the class used as a control, the disruptive behaviors increased steadily and by the end of the three-month experimental period, their disruptive behaviors had doubled in frequency.

In a related article, Galyean (1979) stresses that a holistic approach should use the affective to increase students' receptivity to cognitive goals. This appears to be what is happening in the suggestopaedic cycle. The reintroduction of imagery and meditation (relaxation) enhances the function of the intuitive mechanisms, according to Galyean in Ferguson (1979).

Robert Rose (in Ferguson, July 16, 1979), a fifth and sixth grade teacher in San Bernadino, California, reports on the use of imagery, meditation massage and training in communication. According to Rose, "The teacher's rapport with students is central to the effectiveness of guided imagery." He further states that children are responsive to fantasy because it is something which is theirs alone, something they can identify with at a deep level and use to learn about themselves. He reports that "kids who participate in the program become calmer, friendlier and more themselves."

Imagery and its use in the classroom is reported by two teachers, Robin Beebe (1979) and Maureen Murdock (1970) in their separate efforts at incorporating guided imagery. They also provided a number of expressive forms for the images which come to the children's consciousness. After exploring dream images and daydreams, Beebe guides a group through the deliberate use of the imaging process. These exercises are followed by the opportunity to express images through drawing, dancing, singing, writing and talking - any of which can be kept private or shared with the group. In her own words, "Exploring the image using non-verbal modalities such as movement and various art forms often serves to deepen the meaning to the image and makes its translation into verbal symbols more significant."

Children who might ordinarily interrupt classroom discussion or tune out were found by Beebe (1979) to become involved as well as respectful of the experiences of the other students. Because every response is accepted the child with learning problems is more likely to share and become involved in classroom discussions.

Very similar to the suggestive set-up of suggestopedia, Beebe (1979) stresses the importance of classroom atmosphere, the group needs to be together, alert and relaxed and that learning occurs best in a supportive climate. She suggests various relaxation techniques similar to those used in SALT (breathing exercises, tensing and relaxing the body, and "centering" exercises). She also stresses the importance of sound, as in a group chant or singing of a song where both a rhythm and tonality are established, or through listening to appropriate music. This is not unlike the suggestopedia elements of rhythm, intonation and the pseudo-passiveness.

In a related article, Murdock (1979) discusses her use of guided imagery with her class of 26 third-grade students. Each morning is started with 5 to 10 minutes of "quiet time" during which she leads the class in meditation, guided imagery and multi-sensory or psychophysical exercises. In her four years experience starting the day this way, Murdock found that:

> 0 The children show greater concentration span, alertness, awareness of themselves and of each other and the ability to relax and heal themselves of stress-induced complaints such as headaches and stomach aches.

She finds them able to express themselves more fully, in nonlinear modes, through art, creative writing and poetry. Those children who tend to be non-verbal find an outlet for their special styles of knowing.

A final story is in defense of the use of imagery in the classroom, and the fact that there are some children in our classrooms who see things quite differently. Jean Houston (1979) tells the story of Billy, a young child who was flunking out of school, yet had designed and built phenomenal machines in the basement of his home. When asked how he figured things out, he described his way of thinking in terms of seeing pictures. In his words, "when I close my eyes to figure something out, it's like a cross between music and architecture." When tested soon after that on a standard IQ test, he tested at about 85. After Billy and Jean Houston rewrote the test so that he could use his imagery and musical thinking to answer the test questions he scored an IQ of 135 - fifty points higher than his previous score!

Following this discovery, Billy and Ms. Houston then approached his teachers, working with them to figure out ways of presenting information and questions to children like Billy so that their special styles of imagistic thinking could be encouraged. As of the writing of the article cited, Billy was then 23 years old and on his way to becoming a brilliant design engineer and inventor as well as having changed from the withdrawn, almost autistic child to being more outgoing and involved with school and friends.

This case of Billy is probably not as rare as we might like to think. How many other children are there who have been classified as learning disabled, retarded or otherwise who think like Billy?

Self-Esteem, Self-Statements and Suggestion

Self-Esteem: Learning Disabilities

The area of self-concept, self-image and self-esteem is considered important in education, especially in the education of the learning disabled. By definition, the learning disabled are of normal or above normal intelligence who for a variety of reasons are not functioning at their expected potential. How frustrating this must be for the normally intelligent child not to be able to read, compute, write legibly, kick a ball, and/or remember, etc., as well as the child next to him who may even be less bright than he or she. Encountering frustration and failure in the competitive setting of school can produce anxiety which then contributes to tension which makes it that much harder to learn. As a part of all this is the loss of self-esteem, feeling like a dummy, being treated as if something is "wrong" with you, being involved in copious testing and in many cases being placed in a special classroom apart from your peers , even if it means you're in a less frustrating setting.

The premise of suggestopedia that learning is a joy and the child is to be free of tension and anxiety, that learning is easy, and that you'll be able to remember more and better than in the past to a child with a learning disability sounds like pie in the sky. As mentioned in Schuster, Bordon and Gritton, (1976), the three anti-suggestive barriers are particularly strong in children with learning problems. Their experience tells them that it is hard, frustrating, tension producing, and no matter how hard you try it's never enough to be "perfect". Because of such heavy messages which the learning disabled are likely saying to themselves, more than the usual effort will need to be made to circumvent these barriers.

Positive and Negative Self-Statements

As mentioned in the studies of Schuster and Vincent (1979), Gritton (1976), Pollack, (1980), Prichard and Taylor (1976, 1978) and Nelson (1980), these negative self-statements of the anti-suggestive barriers need to be addressed before learning can approach the potential of the individual student. Barber, (1980) states that the goal of training in the use of self-suggestions is to minimize self-defeating self-talk and to increase the number of useful, positive self-statements. Many of the statements said in a "suggestopedic" setting when said internally would be classified as self-suggestions or positive self-statements.

These statements are similar to what some would call affirmations. Both Zubebier (1980) and Lachniet (1979) list affirmations they've used with students to counteract negative self-statements.

During the procedures of the Third International Conference on SALT and Suggestopedia, Allyn Prichard (1978) elaborated on seven key sources of suggestion available to and used by teachers in their daily contact with students and about the activating of the reserves of the mind. Prichard so simply puts it: "The mind functions within the limits of what ever belief system it accepts as being true." Limiting beliefs can be such overt or subtle statements as "school is a bore", "What's the use of trying", or "I can't learn to read". Positive beliefs enable the mind to move into higher gear and achieve at a higher level. Most of the battle is over when we come to *believe* the positive statements, and see as true that we *can* learn more, more easily and with more fun that we previously thought possible. Immediate success assists in enhancing our belief of these statements.

Additionally, motivation is another important factor in activating the reserves of the mind. If the task isn't in some degree challenging and essential as opposed to boring and trivial, we are not motivated to invest much energy in it (Prichard, 1978).

Key Sources of Suggestion - Classroom

Prichard (1978) elaborated seven key sources of suggestion. They are: 1) teacher verbals, 2) teacher non-verbals, 3) classroom decor, 4) lesson materials, 5) activities, 6) peer suggestion, and 7) within-student suggestion on both the conscious and unconscious levels of the mind. Prichard points out that suggestion is everywhere; we cannot escape its impact, and the teacher has the choice of taking control and putting positive order to these various suggestions or letting them go on randomly or possibly even negatively and destructively (1978).

Negative Suggestions about Learning

In addition to seven key sources of suggestion, Bagriana Belanger (1978) spelled out five basic suggestions of a negative nature which we have inherited, and accepted from the past. This "negative brainwashing" has seriously reduced our confidence in our capacities. These are: "1) Every human being has modest intellectual potential; 2) While growing old we lose considerably the little potential we have; 3) Learning is a long difficult process requiring a lot of effort and concentration; 4) Mathematics and foreign languages are particularly difficult to study; and 5) One is able to learn a new text only after several re-readings." These statements make up part of the negative conditioning which needs to be circumvented and eventually proven inaccurate in order that rapid, accelerated learning can be accomplished and believed to be possible.

In addition to the five negative suggestions, Barber (1980) stated that there is a stream of self-talk, feelings and images which appear to be going on practically all the time, not only when we are awake, but also most of the time when we are asleep. These things which we are saying to ourselves, according to evidence Barber cites, enter into the causal chains that determine our behavior. Unfortunately, most of our self-talk is a mixture of current concerns, associations to past and present events, fantasies about the future, as well as worries and other "negative" or "self-defeating" thoughts. "Most individuals rarely say especially useful or positive things about themselves."

Since our self-talk enters the causal chains that determine our behavior, then it is particularly important, especially with those who have negative self-images, that we learn and regularly use positive self-statements as part of the process of improving our functioning in the world. This process should be as essential to our educational system as teaching the times table.

Barber (1979) spells out five basic assumptions which are at the foundation of using training in self-suggestions in educational settings:

> 1. Humans are constantly saying things to themselves;
> 2. What we say to ourselves plays a role in determining how well or poorly we enjoy our lives and cope with life demands;
> 3. Self-defeating self-suggestions such as "I can't...", "What if..." enhance feelings of unhappiness, frustration, and anxiety and make coping with the tasks and demands of daily life more difficult;
> 4. With practice and training in the use of self-suggestions, we can learn to reduce our harmful self-talk and increase our neutral and positive self-talk;
> 5. By doing these we can increase our enjoyment of life and cope more effectively with ongoing events. (p. 112)

More simply said, some believe that every thought is a prayer. If so, for what are we praying?

Barber (1979) goes on to cite the works of others who have shown the positive effects of the use of positive suggestions with various neurotic clients and how potent the effects of suggestions are at times.

He strongly states:

> Without hesitation all knowledgeable present-day researchers in the area of hypnosis agree that suggestions from another person are effective, with or without formal hypnotic induction procedures, when subjects convert the suggestions into self-suggestions.

Along this same line, suggestions from another person, whether they be therapist, teacher or television commercial do *not* affect the listener "unless he or she attends to, accepts and internalizes the suggestions...all suggestions, when effective, can be viewed as self-suggestions."

The training procedures proposed by Barber (1979) can be combined with or supplemented with other suggestions, guided imagery, role playing or role rehearsal ("see yourself writing the spelling words correctly"), covert assertion training, negative thought-stopping, training in problem solving and other cognitive-behavioral procedures. The procedures he proposes will be similar in some ways and different in other ways from other methods which use self-suggestions. All have a common goal though, that of showing students how to use self-suggestions for continuous personal growth. According to Barber (1979) these suggestions need to be as brief and simple as possible, worded positively and in an affirmative, non-doubting way (such as "I feel calm" as opposed to "I will try not to be anxious"). These statements have an indirect effect of helping break the chain of ruminating or negative thoughts. Barber asks the question:

> To what extent is the effectiveness of any set of positive self-suggestions due to the reduction of self-defeating, negative self-talk and to what extent is it due to the direct enhancement of positive self-talk?

The Listener and Suggestive Effectiveness

In order for various suggestions to be effective, communicative components of the speaker need to be considered, such as the content of the message, conviction of the speaker, his/her charisma, as well as numerous other subtle aspects of personality, but also those of the listener. What are the listener's positive expectations, confidence in the speaker, his interests and ethical values? According to Belanger (1978), in the process of communication the establishment of both confidence and mutual respect are important and key to whether or not suggestions can be realized or accepted. The listener's feelings, expectations, emotions and mental set up all need to be taken into consideration.

> Suggestions cannot pass if they are incompatible with the individual's ethics, culture, psychic characteristics and expectations. The experimenter will not be able to pass the anti-suggestive barriers if he does not give enough consideration to their specific subjective structures. (Lozanov, 1971.)

Again, suggestions do not become effective until translated into self-suggestions.

Hemisphere Functions

Currently, especially in the past ten years, particular attention has been directed to the body of information, research and experiments dealing with the functions of the two hemispheres of the brain. Sperry (1975) and Ornstein (1972) have identified the specialized functions and specialized forms of intellect of the two hemispheres as follows:

LEFT Hemisphere (right side of body)	RIGHT Hemisphere (left side of body)
seeing in parts	seeing the whole
analytical processes associated with language, logic mathematics, science, reason	intuitive process associated with fantasy, music, art, space orientation, spirituality
thinking sequentially	thinking simultaneously
highly verbal/speech	mute/imagery
computer-like	synthetic, gestalt organization
reading, writing, naming	simultaneous comprehension
intellectual	intuitive/creative
analytical	emotional
dominant/controlled	receptive
complex motor sequence	spatial/musical
perception of signifant order	perception of abstract

Brain Mechanism

Not all we know about brain function can be answered simply by the definite separation and specialization - since this would not explain why people with severe brain damage sometimes recover lost functions completely. Lashley, in the early '30's, suggested that the brain carries out the same function in many of its different regions. Additionally, John (1976) proposed that many of the brain functions are distributed throughout most regions, but that some regions contribute more, or are more specialized, than others for any given function. Memory, according to John (1976) does not occur in a particular location of the brain, but in the unique cell-firing rhythm corresponding to the information learned.

Important to the area of whole brain learning is recent research mentioned by Prichard (1978) done by El Roy John at SUNY in Buffalo where in his biofeedback studies he found that as new responses are being learned, special patterns of neural firings are occurring throughout *all* of the brain, contrary to previous knowledge and assumption. Instruction needs to be directed to the right hemisphere, the more intuitive and holistic part, as well as the left hemisphere where the more logical, analytical and sorting out functions occur.

Educational Implications

In relation to the educational setting, Sperry (1975), as well as many others suggests that with the new information and concepts about the human brain, it is obvious that our educational system, and society in general, discriminates against one-half of the brain - the right hemisphere. Ornstein (1973) too suggests a need for change in the way we teach our children, having ignored the right hemisphere for so long.

Suggestopedia can be an answer to this problem. As a system it addresses information to both halves of the brain, using music, the arts, relaxation and a number of apparently right-brain functions along with the direction of information to the left, analytical side.

In his development of information to be shared with groups of people in the training and development field, Tom Mirambel (1980) mentioned in his presentation to the Milwaukee Chapter of ASTD that the information on left-right brain learning has implication for trainers and developers (and for teachers). He stated that trainers should develop whole brain approaches, model by their own behavior that neither half of the brain is superior, allow people to be themselves, love the metaphoric mind and respect the rational mind, nurture motivation, and consider any attempt at communication to be appropriate.

In educating both halves of the brain, he suggests presenting information simultaneously to both hemispheres, augmenting a stimulus by following it with information beamed to the opposite hemisphere, and deliberately beaming to only one hemisphere to provide practice and growth. Right brain training methods he recommends are the use of films, biofeedback learning, computer assisted learning with video display, television, music as well as holistic activities, teaching stories, art/posters, metaphoric learning, experiential learning and relaxing and meditative learning.

Schuster (1977) in an article on the problems and prospects of SALT/Suggestopedia identified the two major ingredients in suggestopedia of SALT - suggestion and whole-brain learning. Schuster defines whole-brain learning as "using a variety of techniques to get both halves of the brain involved in the learning process." In presenting material, according to Schuster (1977) sometimes you use music, use gestures, present material auditorily, use the arts, make jokes, have the kids write, talk, interact socially, work by themselves, etc. There are many different ways of getting the material across and a number of ways of expressing it, using it, or getting it out where it is observable. By using more of the brain, our learning is simply more efficient.

Implications for Learning Disabilities

Now comes the question: what does all this have to do specifically with learning disabilities or children with learning problems? Pollack (1980) in her address to the Orton Society, mentioned that in the classroom, students with stronger right hemisphere abilities must compensate or in some cases experience failure and lowered self-esteem. She proposes a number of solutions: 1) use the right hemisphere abilities for learning a language, 2) provide these children with activities of the right hemisphere which they can excel in and feel good about themselves, and 3) the need for better and more stimulating schools. She also highly recommends using suggestopedia where both hemispheres as well as the limbic system, (the seat of the emotions) are all utilized. In her many years' experience with the diagnosis and remediation of dyslexic or learning disabled children, she has observed that a large percent of them intuitively turn toward activities associated with the right hemisphere. Many are talented in music, art, drama, dance, and have vivid imaginations. These observations are confirmed by a number of recent studies of children with dyslexia.

A study done in Minneapolis by Francis Pirozzolo and Keith Rayner (in Ferguson, August 20, 1979) showed that dyslexia probably involves a left-brain deficit in processing words when they are part of a text rather than a right-brain inability to perceive them as a whole, as previously assumed. Their study of poor readers showed the same right-brain superiority as normal readers for the recognition of facts, but no left-hemisphere superiority for word recognition. This lack of specialization may be key to their reading disability.

In yet another study John Kershner (in Ferguson, Febr. 18, 1980) found that poor readers did not have a deficit in spatial perception, a specialty of the right cerebral hemisphere, as earlier assumed. In that experiment, dyslexic children performed as well on visual-spatial tasks as good readers of the same age. When a poor reader uses the holistic strategy of seeing things in wholes, as in taking an impression of a whole word without the accompanying analysis, the results are full of frequent perceptual errors. Coding words holistically interferes with tasks that demand attention to internal features, and many times impaired readers fail to break down words into units suitable for speech coding, a left-brain function. In his experiments, with poor readers, Kershner (1980) found that poor readers reported more correct responses from the left visual half-field (corresponding to the right hemisphere) than good readers, confirming his hypothesis of a right-brain bias. The fluent, good readers have the ability to attend to detail in the left hemisphere and since analysis precedes the holistic strategy in reading, they will succeed better than those with the right-brain bias.

A final study of dyslexia to be mentioned in this paper is the one by Witelson (in Ferguson Theme-Pack II, 1977), in which she reports that children with developmental reading difficulties may have spatial functioning represented in both hemispheres, not just the right. The redundant spatial development seems to interfere with the usual left-brain activity. Unlike the non-dyslexic subjects who showed significant differences in their ability to recognize shapes with their right and left hands, the dyslexic showed no differences. Witelson (1977) states that "bilateral representation of a cognitive process could...affect cognition by overloading one hemisphere and interfering with those functions 'native' to it." No matter what the reason, whether it be interference or disfunction in the left hemisphere, this could lead to predominant use, wherever possible of the right - spatial, parallel, holistic mode with which dyslexics appear to have no difficulty.

Marilyn Ferguson, editor of *Briain/Mind Bulletin* in her review of Eileen Simpson's biography - *Reversals: A Personal Account of Victory Over Dyslexia* - states that this:

> "vividly written, deeply moving story has implications far beyond the author's account of her own severe dyslexia, the difficulties she had in adapting to a literate world and her desperate struggle to hold onto a healthy self-image." (August 20, 1979)

The implications are there for our educational system with its continued emphasis on linear thought, symbolic language and symbolic mathematics and its apparent lack of recognition and development of that minority of students who have a strong holistic perceptual learning, who many times are unusually creative, fluent, imaginative, artistic or athletic.

> Perhaps the time has come for the concept of human rights to encompass those whose very experience of the world has been denied, who are traumatized by the educational system into incompetence or dropping out, who lose their very identities in trying to fit into the dominant cognitive style... there is an element of Eileen in each of us - perhaps lost or suppressed by an enculturation that reduces things to their parts and has little use for dreaming and imagining. *Reversals* is a doorway into other selves - and the other self of each of us.

Hypnosis, Hypnotherapy
Academic Achievement and Suggestopedia

Introduction

In the literature about suggestopedia (and the American adaptation, SALT) and hypnosis, it is pointed out that there are a lot of similarities of the two systems. Some writers say there's hardly a line which divides them (Stanton, 1978) while others say that the Lozanov method of teaching foreign language has nothing to do with hypnosis.

Definitions

In discussing hypnosis, part of the problem lies in definition. Hypnosis is defined in many different ways - partly on the subjective report of the client/patient, partly on observable behavior and partly on assumptions of what is happening as well as a lot of misinformation and myth. In a pamphlet advertising the services of a local hypnotist, the AMA definition of hypnosis is given.

> Hypnosis is a temporary condition of altered attention, within which a variety of phenomena may appear spontaneously or manifest themselves in response to verbal or other stimuli.

Robert C. Ward, a student and practicioner of what is called "hypnosis" for over forty years defines hypnosis as an altered state of awareness which is brought on by decreased body and mind activity and selective attention. During this altered state of awareness, there is better and easier access to the subconscious where the negative self-suggestions can be reached and eventually neutralized. The various phenomena associated with "hypnosis" (sleep, amnesia, control, etc) are all responses to various suggestions entered in at the subconscious level. Even increased susceptibility to suggestion can be increased during this altered state of awareness (Ward, 1980).

Is not suggestopedia described similarly? Aren't both the body and mind experiencing decreased activity and the student attending very selectively to the academic material being presented by the instructor?

The same experience also happens while one is thoroughly engrossed in a book, concert or television performance or intently attending to a religious service.

Another way of describing hypnosis is by the observation of certain behaviors. In her study of the use of hypnosis with young children, Gardner (1977) elaborates on four basic behavioral observations: 1) a quiet, wakeful behavior following soothing, repetitive stimulation; 2) involvement in vivid imagery; 3) heightened attention to a narrow focus with alterations in awareness; and 4) the capacity to follow post-hypnotic suggestions.

Hypnosis with Children

In her fascinating study of hypnosis with infants and pre-school children, Gardner (1977) quotes Morgan (1973) as stating that "it is possible that all people are born hypnotizable, but that the demands of reality on the maturing personality discourage the freedom of imagination which our society encourages only in children." Our conscious mind appears to take over more and more as we get older.

In her work with children, Gardner (1978) has found hypnotherapy to be acceptable and intriguing to most children.

> Hypnotherapy rarely produces complications, permits specific focus on the problem, allows the child to control his own treatment, and usually produces lasting results in a short period of time without symptom substitution. (p. 840)

Richard Sarles (1975), a physician and Director of the Child Psychiatry Pediatric Liason Service at the University of Maryland School of Medicine writes of the uses of hypnosis with children, especially children who are hospitalized. Hypnosis has been used for many years for the treatment of a variety of psychological and medical problems, such as enuresis, encopresis, tics, stuttering, pain, fears, etc., and as an adjunct to psychotherapy with children.

Producing results in a short period of time is especially important in the breaking up of the cycle of feelings of failure, frustration, anxiety and the build up of defense and coping mechanisms mentioned earlier as part of the problems involved in working with the learning disabled. Immediate results help in instilling the belief that change can occur and in breaking the anti-suggestive barrier.

Most children are more hypnotizable than adults (Ambrose, 1968.) Ages for greatest susceptibility are from six to twelve, decreasing somewhat in adolescence (London, 1962). It has also been found that there is no sex difference in hypnotizability in the five to sixteen year old age group (Cooper and London, 1966).

There are a number of reasons why children are more hypnotizable than adults, and many are the same or similar reasons given for the use of suggestopedia with children. Reasons are that children are -

1) more flexible with their minds, less rigid;

2) more readily use fantasy and are highly imaginative;

3) seek and accept help from adults readily;

4) more ready than adults to enter into a relationship of trust and closeness; consequently having little or no conflict over issues of control; are open to new experiences; and are driven by a desire to master new skills (this is particularly obvious in the school setting);

5) they have limited reality testing, use "magical thinking", are willing to experience regressive states (how many times do we see young children enjoying playing "baby" during free play);

6) they can move quickly from one feeling state to another. (Sarles, 1975)

All of the above reasons contribute to the child's increased hypnotizability. Some common examples of "hypnosis" seen in family or home life are the use of stroking, rocking and talking softly and quietly to a crying infant to help them become more content and comfortable. Another example is the use of "magic kisses" placed on a hurt or injured child along with the calm, soft and sympathetic voice of the parent or teacher. Sarles says humorously that this produces "hypnotic analgesia which has relieved more pain, more quickly and with more universal results than all the analgesics known to medical science."

In yet another article, Gardner (1974) discusses quite extensively the many variables which affect the use of hypnosis with children. There are patient variables (cognitive, emotional and interpersonal factors), parent variables, hypnotist variables, and situational variables. She goes on to cite certain situations which contribute to the maximum effectiveness of hypnosis with children: 1) maximum cooperation of parents and other adults significant in the child's life (the child himself generally has no difficulty cooperating); 2) appropriate induction techniques depending on the age of the child; 3) adapting treatment techniques, being able to use such ones as concrete suggestions, imaginative techniques, regressive techniques, ego-strengthening techniques and self-hypnosis.

Gardner (1974) so well puts it that the real question is not so much whether or not a child is hypnotizable, but,

> whether or not he is hypnotiable by a particular hypnotherapist having a particular relationship with him and his parents and using a particular technique for a particular purpose. The closer we come to this kind of sophistication, the more likely it is that we will be using hypnosis with children less as a last resort and more as a first resort.

Sarles states that the most common reason for the failure of hypnosis with children, especially given all the reasons why children are so much more susceptible than adults, is the therapists' inability to adapt to the mentality of the child in the cognitive, emotional and experiential areas - in other words allow himself/herself as therapist to think, feel and experience as a child, allowing his/her own childlike behaviors and feelings to come to the surface.

As has been concluded by others, Sarles states that hypnosis should be used as part of a treatment plan in working with children and is a reliable, helpful and well-established technique which can be used for a wide variety of physical and emotional disorders of childhood and adolescence.

As with Gardner, Ambrose says that hypnotherapy continues to be the method of choice in the anxiety problems of childhood. It also proves worthy in the area of psychosomatic medicine and can never be dangerous to the health or life of the child.

Krippner (1971), too, emphasizes the importance of using hypnosis in conjunction with other methods and techniques. With some children , hypnosis is not indicated as the most appropriate method to use. Kaffman (1968) states that although the average child can learn how to relax, and quickly and easily accept suggestions given by a hypnotist, "an exception to this rule is the group of hyperkinetic brain damaged children who are bad hypnotic subjects." This is because as a rule they are characterized by exceedingly short attention spans, restricted capacity of abstract thinking and distractibility. Jacobs (1966) suggests that inability to achieve a "trance state" could be one of many diagnostic tools in determining the possibility of brain damage in a child. This author proposes that, instead of dismissing the use of hypnosis for those reasons and subsequently diagnosing the child as "brain damaged" maybe what first needs to be done is to find out whether or not these children would be open to suggestions which are designed to lengthen their attention span, help them concentrate and control their impulsivity. Barber (1979) in his article on self-suggestions deals with each of those areas, not with children, but with college students with a great deal of success.

If hypnosis is reported to have such great success as an educational tool, what accounts for its lack of use in the classroom? According to Krippner, it is not because of lack of student interest, but rather the lack of trained personnel. Training would involve in his estimation a sound knowledge of educational psychology in addition to a solid background in hypnosis. The psychological and physiological concomitant of particular educational concerns must also be understood by the prospective hypnotist. Membership in either of the two recognized national professional organizations for people using hypnosis in their work is strongly suggested, too.

Hypnosis as an Educational Tool

Rationale, Variety of Uses

Krippner (1970) cites various studies he had done using hypnosis for problems in study skills and work habits; concentration and attention problems; elimination of certain behaviors, such as test anxiety; motivation and interest; and for deficient language skills. He states that all of these areas often handicap children who have become reading disability cases. Educational hypnosis should be part of a comprehensive psychotherapeutic program, if there are serious emotional disturbances lying behind the previously mentioned problems.

Following are some disturbing comments by Ambrose (1968) referring to anxiety and phobic problems which are serious hazards to the progress of the student. "If guilt, fear, anxiety, the need for punishment and other unconscious emotional needs can be controlled and eventually eradicated and the child's intelligence freed, the intellect can more readily cope with learning." In his work, Ambrose has found that although very often the same effect can be achieved with or without the use of hypnosis, hypnosis appears to release tension and these relaxed feelings (children describe as sleepy feelings) "give rise to a more confident and more certain attitude of attention, concentration and effort". He strongly suggests that auto-hypnosis be taught which can be easily and instantly understood by the child.

Kaffman (1968), too, agrees that hypnosis is a good method to use with children, especially in relation to breaking the viscious cycle of symptom - lack of confidence - anxiety - symptom. This is particularly important in relation to the setting of learning problems and some of the companion behaviors.

In another article, Krippner (1971) comments on the fact that because suggestion is a frequent concomitant of the teaching process, that without being aware of it, many educators have used some form of hypnosis in what were probably many of their most successful teaching efforts.

Krippner (1970) discusses the importance of the use of hypnosis as an educational tool, and that some "hypnotic" techniques are already in use in the schools - such as suggesting the class relax before an exam or giving the team a pep talk before a game, etc. One of the studies cited on the use of hypnosis with children with learning problems was the study Krippner (1966) did at a reading clinic during a summer remedial reading program. Hypnosis was used with nine of the forty-nine children attending the clinic to help in the areas of decreasing tension, increasing motivation, fostering interest in reading, maintaining attention and concentration, as well as facilitating the revisualization and reauditorization of graphic and spoken symbols (used in spelling).

Krippner (1970) shows how with the use of the Radaker technique (1963), revisualization is used for children having problems with spelling errors. He also combines reauditorization and clinical hypnosis to assist the poor speller. A very interesting account of the teaching of the word "car" follows in his article. The children are asked to see the letters on a big movie screen, feel the letters being traced on their forehead and then listen for the sound of the word "car" in the back of their mind. This is very much like the passive stage of the presentation of spelling material seen and heard by the author in Jean Taylor's remedial reading class where the children were told to see themselves writing the words on their magic board.

Results showed that those who received hypnotic treatment performed significantly better than those who did not. Median improvement for the whole group was five months' reading advancement during a five week period of time. Of the nine children treated with hypnosis, eight were above the median and one below. Of the non-hypnotized children, 16 were above the median and 24 at or below.

Gerald Jampolsky, a psychiatrist and director of the CHILD Center Annex (Childhood Help in Learning and Development) and Mary Ellen Haight, a research assistant at the Center, write of a special technique being used successfully at the Center for children with reading problems (1975). It is described as a specific suggestive technique in which use is made of suggesting a particular visual picture as well as a kinesthetic picture (feeling imageries). In using this technique, the picture becomes a predetermined reality. "Pictures people have of themselves determine behavior far more than an idea they have of themselves." Although not described as either hypnosis or suggestopedia, it has some of the same characteristics - muscle relaxation, use of mental imagery, replacing old negative thoughts and pictures with new and more positive ones. These new images are given to the unconscious mind. The new images are what determine behavior, not the conscious thought process itself.

The authors go on to describe the case of John, a young student who was bored with reading and had a rather passive, resistive attitude toward learning to read. Various techniques had been used prior to his coming to the Center, none having been particularly helpful in the long run. All parties involved, the child, his parents and his teachers were experiencing the vicious cycle of negative feedback accompanied with the loss of self-esteem.

When tested, John was found to have skills at a fairly high level - something John "seemed determined to deny, choosing to explain the high scores away, while at the same time wanting to believe they were that good." This is also similar to the anti-suggestive barrier which Lozanov refers to as the critical-logical barrier to suggestion. According to the tester, although John's academic skills were excellent, "he was so turned off to reading and so sure of his own disability in comprehension that it was almost impossible for him to succeed."

It was decided to use the suggestive technique with John, and it involved these steps:

1) becoming relaxed, feeling and seeing his muscles relax;

2) feeling and seeing himself become more relaxed as he is imagining himself going down an elevator;

3) seeing a picture of himself and having a feeling imagery of himself being with his teacher enjoying and getting pleasure out of reading;

4) seeing himself gaining confidence as well as seeing and feeling his skills begin to increase;

5) taking that picture of himself into his blood cells and allowing it to be carried to all part of his body;

6) being given information about the use of auto-suggestion and using it then following Steps 2 through 5;

7) being suggested that he use auto-suggestion for five minutes each night.

In a comparison of test data of before and after treatment, John doubled his performance in both speed and accuracy. He also now reads with enthusiasm, answering all inference questions correctly. After a two week period of time during which he attended summer camp, John returned to the Center remembering the entire story and where he was in his book. He was still enthusiastic about reading, his comprehension was excellent, and his behavior had changed radically.

A very interesting study by Donald Willis (1972) points to the importance of suggestion in his experiment on the effect of self-hypnosis on reading rate and comprehension. Forty highly susceptibles were randomly divided into four groups, with the reading rates and comprehension of each group being measured before and after treatment. One group was treated with self-hypnosis and reading suggestions; group two was given examiner-administered hypnosis and the same suggestions; group three received only the suggestions; and group four received no treatment.

The hypothesis was that both kinds of hypnosis would significantly facilitate the expected incremental effect of the suggestions on reading rate without lowering comprehension. The results, however, indicated that neither type of hypnosis had a measureable facilitory effect on the suggestions, although the suggestions produced the expected incremental effect (p. 249). Since there was no significant differences between the sizes of the increases of reading rates of the three treatment groups, it could be postulated therefore that suggestions alone were just as effective as suggestions combined with hypnosis. This is corroborated in the findings of Barber (1965) who mentioned earlier that hypnosis offers nothing unique to the learning situation. Barber has also demonstrated that the major phenomena of hypnosis can be shown equally well with or without a hypnotic induction or trance state, and that the only intrinsic difference is one of methodology.

Willis (1972) suggests that future research concern itself with the varying of the number and duration of practice sessions and testing the comparative effects of different kinds of suggestions and practice techniques.

Others have used hypnosis with different populations, and reports vary on the effectiveness or ineffectiveness of hypnosis. Barber (1965) as quoted in Krippner (1970) criticizes most of the experimental studies of learning and hypnosis by stating that the investigators confound two independent variables - one being the "hypnotic trance state" and the other being suggestions intended to elicit a high level of performance. His criticism is that:

> The possibility was not considered that S's might have performed as proficiently under a waking condition as under the 'trance' condition, if suggestions for enhanced learning and recall had been given under both conditions.

Jampolsky (1970) described a technique of a combination of hypnosis and sensory motor stimulation to improve a problem of number reversals in a group of children with that specific learning problem. Jampolsky (1970) devised a technique which could be carried out in a short time, partly because it was hoped that this would decrease the level of anxiety, "with the result that the ego and perhaps learning ability in other areas might show improvement." This was based on findings that unsuccessful lengthy tutoring can then lead to extreme frustration, a decrease in self-esteem and conceivably affect other areas of learning.

Jampolsky chose to use a tactile and kinesthetic approach for learning with number reversals based on the premise that the reversals likely were based on some kind of visual perceptual problem and that the use of sensory modalities other than visual would be wise. He chose to use hypnosis for both the reduction of the child's anxiety and the heightening of his awareness of sensory and motor systems other than visual.

He used tactile images of fur and kinesthetic images of an imaginary weight tied to the arm and an imaginary balloon tied to the other arm, and an imaginary wind blowing the student into the author's arms. A post-hypnotic suggestion was given that the student would learn to write his numbers by "feeling" them, rather than seeing them.

This phase was followed by instruction using touch, muscle, memory and vibratory approaches. Results showed that after the initial session of hypnosis and two weeks of specific teaching procedures, five children in the experimental group had the total number of reversals reduced from an initial ten to zero. For the five children in the control group who had no hypnosis or special training, number reversals increased from a total of 8 to a total of 13 over a two week period. All the children involved, through neurological and psychiatric examination had learning disabilities which could be considered developmental, presumably resulting from a maturational lag of the nervous system.

Jampolsky stated some defects in the pilot study with suggestions for change. The number of subjects was small, experimental period was short, and there were a variety of procedures being used which made it difficult to determine which of them, or which combination would be sufficient to help children correct their number reversals.

It is postulated that this particular population of children had a developmental learning disability resulting from a maturational lag of the nervous system and that possibly the type of sensory stimulation used (vibratory, motor and touch sensations) might enhance the maturation of the perceptual apparatus as well as stimulate alternative pathways to vision for supplying information to the brain. (Jampolsky, 1970).

Considering the use of hypnosis, Krippner (1970) concluded:

> Clincial reports indicate the possible utility of hypnosis in ameliorating students' study problems, improving concentration, reducing test anxiety, increasing motivation, and facilitating the learning of specific language skills... It does merit greater consideration by a society committed to the maximum development of the talents and skills of its citizens.

Hypnosis and Suggestopedia-Similarities and Differences

The technique suggested by Sarles is similar in some ways to that used by Jampolsky and Haight (1975), for reading problems and by SALT teachers. Similar to what is categorized as "preparation" phase in suggestopedia and the creation of a positive suggestive atmosphere, Sarles mentions a number of things to be done before initiating the actual hypnosis. Areas of importance are the relationship of the subject and the hypnotist (rapport, trust, authority and infantilization of suggestology), the timing in an overall treatment plan, the flexibility of using various induction techniques (also stressed in suggestopedia to avoid boredom), using the child's own suggestions (i.e., suggestopedic use of suggestions for learning easier, faster, more efficiently and remembering material better and longer), and adapting to individual differences. (See Taylor and Prichard on their adaptation for the remedial reading setting and the need for more extensive physical relaxation and positive self-statements.) Other preparation items are to share the reason for the use of hypnosis, what will happen, why it's being used, dispel any myths the child might have about it's use (in suggestopedia, citing previous research of accelerated learning, reports of previous students and instilling the idea and belief that it works) and telling the child that "hypnosis" is aimed at strengthening his wishes and adding power to his desire to change things which may be disturbing. He stresses too that the child can learn how to use hypnosis himself/herself.

Sarles (1975) stresses the importance of assuring the child that hypnosis will not put him to sleep. This is because of all the emotions stirred up around "separation anxiety" at bedtime. This seems to also be related to what he later cites as the child's general resistance to eye closure and tendency to open their eyes frequently during hypnosis (Moore and Lauer, 1963). This brings out a side issue having to do with the criteria used by Prichard and Taylor (1978) in determining which

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children were more successful with the relaxation technique and also used by Nelson for determining the effectiveness of relaxation (mind-calming and visualization exercises). Evidently, eye closure possibly should not be used as a criterion in this case. Sarles goes on to state that it is important that the children know that they can open their eyes at any time if they wish to and that eye closure not be used as a test of suggestibility or as a challenge technique with children.

Before actual induction, Sarles engages the child in some "games" of arm levitations. The magical aspect of this game helps to engage the child's curiosity and interest and makes him more susceptible for suggestion and induction and helps instill belief. Likewise, creating a positive, supportive suggestive atmosphere by the use of the six basic elements (authority, infantilization, double-planeness, rhythm, intonation and passive concert-like setting); creating a sense of joy of learning, relieving tension as well as addressing both the conscious and unconscious and using both verbal and non-verbal communication set the stage in the suggestopedic system. All add up to heightening susceptibility to suggestion.

Sarles suggests general muscular relaxation, hand levitation and the "television technique" as some of the most popular and successful methods for induction. With the exception of hand levitation, these are similar, if not identical to the progressive muscle relaxation, mind-calming, and visualization exercises used in SALT - particularly the one asking the child to write words on his magic blackboard, similar to seeing a word on the television screen, the movie screen of Jampolsky or writing in the sand of Taylor. On the television screen, the children are to see different pictures appearing. These images can be used to strengthen feelings of self-worth, confidence, competence and trust, just as Jampolsky and Haight (1975) have the child see himself/herself enjoying the pleasure of reading, seeing himself/herself feeling more self-confident and increasing in skills or as Krippner (1970) has the child revisualize a word or the early pleasant learning recall of SALT.

Other Similarities and Differences

In the continued question over whether or not suggestopedia is or is not actually hypnosis, a number of people, both users of and observers of both or one of these techniques have commented on the similarities and differences. Schuster, in a talk in Madison in 1980, says one of the distinctions is that although both systems use suggestions, all suggestions are in a waking state in suggestopedia, they do not bring about as much an altered state of consciousness and are not given in the formal hypnotic suggestive method. He further states in the manual (Schuster, Bordon and Gritton, 1976) that although there are lots of suggestions used, there is also game playing, lots of fun, pretending at being a kid again, and a variety of physical and mental exercises. Philipov (1977) in Brain/Mind Theme Pack also states that the individual is wakeful, not somnolent, has no sense of "going under", has heightened memory as opposed to post-hypnotic amnesia; suggestions are given in a monotonous tone in hypnosis, whereas in suggestopedia they are given in the total environment, with a background of music, varying intonation and rhythm of presentation; and last, that the student has conscious control yet uses unconscious functions. In another context, Bordon (1977) states that:

> "Hypnosis is nothing but a heightened state of suggestibility... If the belief systems in the students are stimulated enough, then they are going to achieve things that they normally think they cannot achieve because of built-in automatic barriers."

In previous citations, Barber has stated that the phenomena attributed to "hypnosis", such as the "trance" state, somnolence, feeling of "going under", and post-hypnotic amnesia can all be achieved without calling the situation "hypnosis", and that all of these are *suggested* behaviors.

In her article, Pollack (1979) states that Lozanov, a psychiatrist who had used hypnosis in the '50's and '60's has studied the potency of suggestions under conditions defined as hypnosis as well as in the conscious state. He found that under certain conditions suggestion on a conscious level can be just as powerful and has the capacity of calling forth the reserves of the unconscious. "The unconscious psychic activity within which suggestion takes place is at hand during all and any states of the individual - states of wakefulness, sleep, hypnosis, gloom, etc."

On the other hand, Barber, Spanos and Chavez (1974) challenge the traditional theory of the existance of a special state - "hypnotic trance" - and that what is supposed to happen in that state as far as behavior is misleading.

> From our viewpoint, subjects carry out 'hypnotic' behaviors when they have positive attitudes, motivations, and expectancies toward the test situation and, consequently, when they are willing to think and imagine with the themes that are suggested.

An interesting side in this whole question of whether or not suggestopedia is actually "hypnosis" or not is that two hypnotists, Cooper and Erickson, researched the effects of rhythm on body and mind function in the '50's. What they found is that the 60 beats per minute rhythm with 8 to 10 second activity cycles vastly accelerated learning and creativity by expanding a person's time perception and that a learner can do this same thing without the use of hypnosis. This beat apparently slowed down body and mind rhythm so the individual felt as if they had more time to accomplish tasks than in actual clock time (Ostrander, 1979). What is interesting is that the research was done by two hypnotists, that the effect of accelerated learning can be accomplished without hypnosis and this is the same method used in the passive section of the suggestopedic presentation phase. (The musical background is 60 beats per minute and the material is presented in 8-second intervals with the students' breathing synchronized to the 8-second cycle])

In a personal communication with Dr. Barber (1980), he states that the Lozanov procedure does, in fact, overlap markedly with the hypnosis procedures. "As you know, 'hypnosis' in therapeutic settings typically includes relaxation instructions, imagery and positive suggestions given either directly or indirectly. These components are also found in the Lozanov procedures."

Stanton's Comparison

These comments are further elaborated on in an extensive comparison by Harry E. Stanton (1978) of the University of Tasmania in his article "Suggestology or Hypnosis - It's All in the Label." That in itself sets the tone for his comments. As a hypnotist himself, he states that what is most important is *suggestion* , rather than some state of mind labelled "hypnosis".

Stanton quotes Gindes (1973) in a statement which seems to sum up much of the confusion and diversity of thought:

> When all available data on scientific hypnotism have been examined, one fact looms large, unescapable and inevitable: viz., *Suggestion* causes the hypnotic state, *suggestion* is the vehicle upon which all hypnotic control travels, and *suggestion* is the most effective means of rousing the subject. In other words, the entire procedure of hypnosis, from induction to awakening, is founded upon *suggestion* .

That certainly fits what has previously been said about suggestion's being universal, and how powerful suggestion can be and is.

Stanton (1978) proceeds to make a stage-by-stage comparison of suggestopedia and hypnosis. Stanton concluded by summarizing the similarities of suggestopedia and hypnosis by saying that each has these three important elements - relaxation, positive suggestion and imagery, and that the claimed differences between the two lie only in the label or name each uses.

> It is easy to believe that something is different because we label it differently, but the same phenomena do seem to be present in suggestology and in hypnotherapy. Perhaps it would be more helpful for us to recognize this situation rather than to attempt to create distinctions which are more apparent than real.

Conclusion

The student is aware, at least on some level - conscious or subconscious - of everything that is going on around him and inside him, whether it be the color of the room, the smile or frown of the teacher, his own internal self-talk saying "I can't learn to read", feeling comfortable with his teacher, feeling like he won't be put down if he makes a mistake, all the subtle, as well as overt verbal and non-verbal messages are registering. All the senses are alert and attuned to stimuli and are available to either hinder or aid in the learning process. The suggestopedic teaching system, whether called the Lozanov method or SALT, addresses all of those areas through the recognition of the importance of suggestion and its influence on how well we learn, affecting even what we believe to be our innate human potential capacities.

It's been found that we are more open to accepting suggestions which will aid in our learning process if we are relaxed, physically and mentally, enjoying ourselves, have confidence in both ours and our teacher's ability, and have proof that we can learn to the capacity we were designed to be able to do. The three suggestopedic teaching principles: 1) the joy of learning and absence of tension; 2) the unity of the conscious and paraconscious; and 3) the suggestive link which affects our belief system, are all used in ways that make both teaching and learning enjoyable and beneficial for the teacher and student.

Because the learning disabled child has a number of additional barriers to deal with, whether it be perceptual or motor disfunction, low self-esteem, impairments in academic and language areas, disorders of memory and thinking, he is more likely than the "regular" students to experience frustration and failure as measured by the successes of his peers. As a result, he may decide to give up and be the "dummy" he appears to be, become anxious, and develop a whole variety of coping and defense behaviors. These behaviors themselves create additional problems and compound the whole diagnostic and learning process. Hyperactivity, inattentiveness, irritability are just a few of these behaviors.

Suggestopedic teaching appears to address even these problems through the use of a positive suggestive teaching atmosphere, suggestions for dealing with the barriers to learning (the anti-suggestive barriers), relaxation exercises for both the body and mind, stimulation of the right brain functions, as well as the left, the use of imagery and positive self-statements. Individually, each of these has been used with the population of children experiencing learning problems, whether labeled as "learning disabled", or the child with a non-specific learning problem, one who is placed in a remedial reading setting in the classroom or at a reading clinic, or one who has been referred for hypnotherapy.

On the basis of all the successes reported on the use of various components of suggestopedia, although not identified as such (relaxation therapy, imagery, self-statements, and suggestions, right-brain/left-brain learning, and the techniques used in hypnosis), as well as the limited but positive reports of using suggestopedia with the population of "learning disabled" in both the clinic setting and regular public school setting, it is this author's conclusion that suggestopedia can and should be more widely used by teachers of children with learning disabilities.

It has been shown in a number of studies cited in this paper that suggestopedia as a whole can be used with children with learning problems (Nelson, Prichard and Taylor, Gritton, Schuster and Vincent). Hypnotherapy, similar to suggestopedia, has also been used successfully with children with learning problems (Krippner, Jampolsky, Sarles, Gardner, Willis). Additionally, various key components have been used successfully with both children who have no academic problems, as well as those who do. Relaxation therapy, in various forms, was used to inhibit hyperactivity (Kwako, Lubar, Nall, Ackermann, Mantione, etc.).

Imagery training and expressions are used to help develop the right-brain functions and reduce negative behaviors (Houston, Beebe, Murdock, Galyean, etc.). Self-statements and suggestions have been used to help with feelings of self-worth, developing better study habits, and over-coming anxiety reactions (Barber, Zuberbier, Lachniet, etc.). Right-brain/left-brain studies continue to help us understand how we learn (and unlearn) certain information. All of these separate components are parts of suggestopedia and have been shown to be valuable in the education setting.

At the Conference for Suggestology, December 11-16, 1978, in Sofia, Bulgaria, Dr. Stanley Krippner, one of the invited speakers, stated that he was pleased that Dr. Lozanov had developed a system which activates so many areas of the brain, particularly the right hemisphere and limbic system, often neglected in education. He strongly suggests that many children with learning disabilities are less handicapped genetically than by *traditional education* , based on the remarks of both Prof. Pollack and Prof. Schuster who have both successfully used suggestology with learning disabled children (Schuster and Miele, 1978).

Because it can be used with both small or large groups, it can be adapted to the self-contained, resource or tutoring settings. It could also be used to help sort out and assist those children who are not truly neurologically impaired or brain damaged, but for a variety of reasons, have been diagnosed and treated *as if* they were "learning disabled". Many children can be helped to function to their fullest capacity and deserve that opportunity. It is imperative that the teacher and/or diagnostician of children with learning disabilities consider the possibility that the child may be exhibiting characteristic behaviors as a result of stress or a decision to be disabled, not simply as a result of perceptual or motor impairments. These two areas - stress and decision - can be approached or even possibly diagnosed by using some of the techniques of suggestopedia.

With all of this in mind Schuster (1977) sums up the whole process with the thought that what is crucial is that the student is left with a concept that "I can learn, I can learn very easily, and it's fun" and that learning is simply more efficient when you use all of the brain. Suggestopedia does all of that.

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L'application de la Suggestopédie à l'enseignement des enfants handicapés

Certains enfants qui ont été classé parmi les handicapés ne le sont peut-être pas; il se peut qu'ils souffrent tout simplement de fatigue et de stress.
Certains éléments de la Suggestopédie, de même que des méthodes thérapeutiques basées sur l'hypnose, la relaxation, le biofeedback et les suggestions positives, amènent de remarquables changements chez des enfants qu'on dit handicapés.
D'après les chercheurs, les professeurs et les élèves eux-mêmes, ces changements comprennent une nette amélioration des résultats; une amélioration de la santé physique et mentale de l'élève, de sa concentration en classe; une diminution de l'hyperactivité; une élimination, parfois, du soi-disant handicap.
D'après les conclusions de l'auteur, des méthodes telles que la Suggestopédie doivent être employées dans toutes les classes et avec tous les enfants.

Suggestopädie und ihre Verwendung auf die Ausbildung von lernbehinderten Kindern.

Es kann sein, daß einige Kinder, die als "lernbehindert" diagnostiziert und so genannt werden, eigentlich stattdessen "entscheidungsbehindert" sind und/oder unpassend auf Stress reagieren. Es ist gezeigt worden, daß Einzelteile der Suggestopädie und Techniken, die Einzelteilen (wie Hypnotherapie, Entspannungstherapie, Biofeedback, positive Selbstsuggestion) ähnlich sind, in Kindern mit Lernschwierigkeiten bemerkenswerte Veränderungen veranlassen können.
Verbesserte akademische Leistungen, verbesserte körperliche und geistige Gesundheit, verbesserte Aufmerksamkeit, verminderte Hyperaktivität und in einigen Fällen selbst die Wegnahme der Bezeichnung "LD" sind einige Veränderungen, worüber in der Forschung berichtet wurde und die von den Lehrern und Schülern selbst beobachtet wurden.
Die Verfasserin schließt ab, daß die Verwendung von Suggestopädie und ähnlichen Techniken ernst genommen und in das gewöhnliche und spezielle Klassenzimmer einbezogen werden sollte.

Suggestopedia y su Aplicación en Niños con Problemas de Percepción

Los niños que se clasifican con "problemas de percepción" pueden tener problemas de decisión en vez de percepción, y a la vez reaccionar mal a la tensión. Las técnicas de Suggestopedia parecidas a las de hipnoterapia y terapia de relajamiento demuestran cambios positivos en los niños con problemas de aprendizaje. Según los investigadores, maestros y propios estudiantes; uno de los beneficios que se han observado incluyen: mejoramiento académico, mejoramiento de salud física y mental, menos hiperactividad y la eliminación del nombre "problema de percepción".

J. of the Society for Accelerative Learning and Teaching, 1981,
6(1)

Tuning Up in the Classroom with Music and Relaxation

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Abstract

Non-verbal activities are needed in our classrooms to facilitate expression of unconscious thought processes. In this way, the right and left hemispheres can work together to improve our learning capacity, creativity, and also our mental health. Tuning Up activities and appropriate music are given.

What do you see when you look at the Arcimboldo painting below? Do you perceive both aspects of the painting - the fruit and the portrait? Man has a dual brain which allows us to see two, or more, aspects of our environment. The right hemisphere attends to the nonverbal, holistic, spatial, and emotional information in the environment. Most of this material is not readily available in our conscious thoughts. It is the right hemisphere which perceives the holistic impression of the face in the Arcimboldo. The left hemisphere attends to verbal, detailed, and analytical information in the environment. This material is usually available to our conscious minds. In the painting, the left brain sees Arcimboldo's strategically placed fruit. The corpus callosum, a bundle of nerves, which connects the hemispheres, combines the two perceptions into a composite picture. This integration of left and right is necessary for a true perception of the Arcimboldo painting.

Usually the corpus callosum is able to integrate our disparate impressions of the environment; but if the left and right sides become disconnected, each hemisphere will only be aware of a portion of the total picture. When the hemispheres are at odds like this, there is a tendency for the more conscious left brain to take control. This results in rigid adherence to the one-sided reality perceived by the left hemisphere. Right hemisphere participation in conscious thinking is actually repressed, and along with it, many of its important unconscious contents. With the unconscious contents of the right side disconnected from the conscious left side, the stage is set for many mental disorders, especially those involving repression (Galin, 1971).

Mental illness is not the only danger resulting from this disconnection. Without left and right hemisphere integration, creativity is diminished, if not impossible. In creating, one combines information or ideas in new and unexpected ways. "If there is no information or a limited amount of information, ... then the probability that new combinations can be generated is very limited. One of the first principles in enhancing the probability of creativity is to increase the amount and diversity of information and experience that one has available," (Stein, 1975, p. 12-3). When the wealth of right hemisphere impressions are processed with those of the left, the amount and diversity of resources for creating are effectively doubled; hence increasing the capacity for creativity.

Despite its importance in both mental health and creativity, the integration of the hemispheres of the brain is not encouraged in our educational system (Galin, 1976). Rather, schools tend to reinforce the dominance of the left hemisphere with their emphasis on verbal and deductive subjects. Right hemisphere skills such as music, art, fantasy, and even originality in academics are considered by many school systems to be unessential or counterproductive in the classroom. After many years of learning in such a school system, left hemisphere thinking naturally becomes predominant, and the right hemisphere falls to disuse.

Students who emerge from this educational system will rigidly adhere to the verbal, conscious information of the left hemisphere. The repressed material of the right brain will find outlets in mental and physical illnesses. Behavioral problems and learning disabilities in the classroom may result from the disconnection syndrome. But, even if the right, unconscious thoughts are successfully silenced during school hours, the child is still left with only one half of his brain for learning. Without the other half of his mind he cannot creatively solve academic problems, nor can he deal with conflicts of a personal nature.

We can avoid handicapping our children by helping them to integrate their two hemispheres. This task is twofold and can be accomplished through activities programmed into the school day. The first task is to shake loose the dominance of the left hemisphere. Non-verbal activities such as exercises, free movement, deep breathing, and fantasy are excellent because they allow children to change the focus of their conscious thinking. A typical activity would be to have the children close their eyes and imagine an especially relaxing scene. As they imagine themselves transported to that place, they will experience the relaxation that is there. The relaxation releases the dominance of the left brain, allowing direct access to the right side.

The second task is to stimulate right hemisphere thinking throughout the day. The right hemisphere should be provided with a non-verbal medium through which it can express its contents. Research has shown that music directly stimulates right brain functioning. Therefore, it can be used effectively in the classroom to stimulate children to express unconscious feelings and thoughts (Bonny,1973). Music combined with other activities such as improvising with simple rhythm instruments or voices, orchestrating a story, expressive movement, group story telling, and imagery provide excellent creative outlets for the non-verbal material of the right brain. When dealing with the unconscious, music should be chosen carefully, preferably with the consultation of a music therapist. Some examples of music for activities are listed at the end of this paper. Teachers are encouraged to expand this list using the music which produces the best results. In one typical right hemisphere type activity, the class will draw a large composite picture with a theme agreed upon by the students. Each child listens to the music and allows it to dictate how he will draw. The music will stimulate the right brain processes which will then be expressed in the drawing. In doing this, the unconscious material of each child is turned into a creative product, rather than remaining repressed where it may wreak havoc on the entire psyche. The finished drawing will be a collective expression of the group which contains the imprint of each child's feelings.

I call the twofold task Tuning Up because it is analagous to the tuning of an orchestra. Before a performance, each musician cleans his instrument, oils his valves, or resins his bow. In the classroom, this corresponds to releasing the left hemisphere's dominance through relaxation. In part one, just as the musicians prepare their instruments for playing, each child prepares his mind and body, which is his instrument, for learning.

In the second step of Tuning Up, each member of the orchestra sounds a common note in order to tune his instrument to the others' instruments. The timbre of each instrument makes a unique contribution in producing the total orchestral sound on the tuning note. One example of this is the group drawing already mentioned. In classroom activities such as this, each child's unique, non-verbal expression contributes to a total creative product.

Once in tune, the musicians are prepared to play, and the students ready to learn. The musicians turn their complete attention to the music, without worrying about the condition of their instrument or its intonation. In the case of the classroom, the children can now concentrate on their academics without interruption from thoughts about home, tensions, or unconscious problems. They can now learn with both of their hemispheres, rather than with one repressed. As we experienced in the perception of the Arcimboldo painting, two heads are better than one. Our left and right hemisphere impressions combine to give us a full, multi-leveled picture whether we are looking at the Arcimboldo or at an academic subject. With this type of integration, each child will be on his way to developing into a whole, healthy, and creative individual.

Activities and Music

Free Movement

Have the children walk to the beat of the music. Then let them express their impressions of the music with their body. Comments such as "Catch the beat with your feet," "Let the music move you," and "Use your whole body" will help them to move freely. Near the end of the piece, encourage the students to come together in pairs, small groups or a large circle, moving together.
Suggested Music:
Poulenc, Piano Concerto - First movement (Allegro assai)
Beethoven, 3rd Symphony - Fourth movement
Schubert, Arpeggione Sonata in Am - First movement

Movement with Imagery

This is similar to Free Movement, except that the teacher prefaces the music with an induction. Examples of inductions follow the suggested music selections. This activity should also end with the children in pairs, groups, or a large circle.
Suggested Music:
Wagner, Tristan and Isolde - Love-Death
(Pretend you are a bud just beginning to bloom. Begin curled up on the floor and grow towards the sun as the music suggests.)
Wagner, Prelude to Der Meistersinger
(Imagine that you are a noble at a royal gathering, possibly a coronation or a dance.)
Beethoven, 6th Symphony - First movement
(Imagine that you are in a forest. Which animal are you? Explore the forest and see what other animals you meet there.)

Group Story Telling

The children or the teacher can decide upon the beginning of the story. One child begins to create a story. The next child takes over and continues either when he perceives a change in the music, or at a time signified by the teacher. The children should listen to the story and to the music. This will suggest directions for the story to take.
Suggested Music:
Bartok, Concerto for Orchestra - First movement (Introduzione)
Bartok, Concerto for Orchestra - Second movement (Giuoco delle coppie)
Ponchielli, La Gioconda - Dance of the Hours

Drawing to Music

The children close their eyes and listen to the beginning of the music. Suggest that they let the music go in their ears and come out their crayons. This will help them to draw the feelings that the music stimulates.
Suggested Music:

Berlioz, Symphonie Fantastique - Second movement (Un bal)
Beethoven, 6th Symphony - Third movement
Beethoven, 5th Symphony - First movement

Imagery

Begin with a short breathing exercise or relaxation technique. Then suggest a scene or show the children a picture. Have them close their eyes and encourage them to imagine themselves in the scene or picture. Ask questions that will help them explore the scene. "What does it look like?" "What would you like to do there?" "After a while see if you can imagine anyone from the class there." As the music comes on, conclude the induction with, "Let the music tell you what to see and what to do there." Examples of appropriate inductions follow the suggested musical selections.

Suggested Music:
Debussy, Danses Sacred and Profane- forest
Beethoven, 6th Symphony - Second movement- meadow with a brook
Debussy, Prelude to the Afternoon of a Faun- beach

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Pour stimuler les élèves, employez la musique et la relaxation dans la salle de classe
Selon l'auteur, on a besoin dans nos salles de classe de plus d'activités non verbales afin de faciliter l'expression du subconscient de l'élève.
Afin d'améliorer l'apprentissage, la créativité et la santé mentale, il faut que les hémisphères droit et gauche s'harmonisent par le moyen des activités non verbales telles que la relaxation et la musique.

Aufstimmung im Klassenzimmer mit Musik und Entspannung
Man braucht in unseren Klassenzimmern nichtverbale Tätigkeiten, um den Ausdruck von unbewußten Gedankenvorgängen zu fördern. Dadurch können die linke und die rechte Gehirnhemisphäre zusammenarbeiten, um unsere Lernkapazität, Schöpfungskraft und auch geistige Gesundheit zu verbessern. Aufstimmungstätigkeiten und passende Musik werden gegeben.

La Música y el Relajamiento en la Clase

Se necesitan las actividades "no verbales" en las clases para facilitar la expresión de procesos de pensamientos inconscientes. Por este medio, los hemisferios derechos e izquierdos funcionan juntos para mejorar nuestra capacidad de aprendizaje, la creatividad y sobre todo nuestra salud mental. Se dan las actividades musicales apropiadas.

J. of the Society for Accelerative Learning and Teaching, 1981,
6(1)

A Foreign Language Course Based on *Superlearning*

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Abstract

The author describes his successful adaptation of techniques from the book *Superlearning* to teaching English to seven Austrian students.

I. Overview

From March 10th to March 24th, 1980, I conducted an experimental class in which I taught English vocabulary to employees of Nestle Austria, using a simplified version of the teaching method described by Ostrander and Schroeder in *Superlearning* (1979), which is based in large part on the work of Dr. Georgi Lozanov, a Bulgarian psychiatrist. My goal was to see whether I could use the new method to help adults learn vocabulary faster, without stress, as Ostrander and Schroeder report has been achieved in several countries, especially in Bulgaria.

The class of seven students met for a total of ten meetings, usually from 4 to 5:30 p.m. The first three meetings were devoted to an introductory description of the method and to preparatory exercises, specifically exercises for relaxation and breathing techniques. Each of the next seven sessions consisted of 15 to 30 minutes of discussion and relaxation exercises, and 60 to 75 minutes of actual learning. In addition, each learning session was followed by a 10 to 15 minute test: I said the German translation of the word and the students wrote the word in English. The test was designed to measure the students' active vocabulary (the ability to say or write an English word when needed), rather than the passive vocabulary (the ability to understand an English word when heard or read).

For two reasons there was no control group: (1) my intention was to set up a simplified pilot project, not a full research project, and (2) six of the seven participants had been students of mine for more than two years, so I felt I would notice whether or not they began to learn vocabulary significantly faster. I estimated that each of the students, using the traditional methods, generally memorizes 20 to 35 words per hour when studying alone, but with a level of stress which leads to an unpleasant feeling of exhaustion; as a result, few of them can profitably study vocabulary for more than an hour at a time. In a classroom, as part of a group, each student generally learns even less: about 5 to 15 words per hour.

In the experimental class, however, six of the seven participants were able to learn approximately 60 words in one session, and the seventh student learned 51. The scores indicated that a hypothetical "average participant" learned a total of 305 words and phrases in the seven sessions, or 43.5 words and phrases per session, absorbing fewer words per session in the first sessions, and more words as we progressed. All seven students indicated they felt that they could easily have continued to learn at the rate of about 50 to 70 words per hour.

As expected, the learning proceeded without stress. At the end of each learning session, when I asked the students how they felt, they almost always answered, "normal," "relaxed," or "quite good".

According to Ostrander's and Schroeder's reports of research results in other countries, the students should retain about 90% of the material after six months. However for several of the students in the experimental class the rate of retention may well fall below this level, as many elements of the new method were intentionally eliminated, in order to test the core of the new techniques.

II. The Class

A. Participants

The experimental class consisted of six men and one woman, all employees of Nestle Austria G.m.b.H. Three of the men were in middle to upper-middle management, the other three were computer analysts, and the woman was the personnel manager's secretary. All of the students spoke German as a native language, but as a boy Student A (see Table 2) spoke Serbo-Croat at home and German in the schools. All participants were between 25 and 55 years of age, all had learned English in school, all spoke English on an intermediate to intermediate-advanced level, and all had a good basis in grammar but wanted to expand their English vocabulary.

The only student I did not know from previous classes at the Nestle company was Student F (see Table 2).

All the students were aware that the class was an experiment, and many of them helped me plan the simplifications necessary to fit the experimental nature and limited goals of the course.

B. Selection of the Vocabulary

Several weeks before the beginning of the course, I circulated among the students two lists of important business words, each list containing about 1000 words, with the request that the students mark every word they wanted to learn. The lists were returned to me with the remark, "All the words". In addition, I spent 1 ½ hours with some of the students, choosing material to be learned.

From the lists and discussions I selected about 400 words and phrases which I expected the students did not know. However, in class it occasionally became apparent that a particular word or phrase was already in the active vocabulary of some of the students, at which point I always asked the students whether we should still include the word or remove it from the list, and I always let the students decide.

As a result, almost all of the words actually learned were new for almost all of the students, or at best had been before the course only in their passive vocabulary. In general, although such an assessment is difficult to make, I would estimate that for each student less than 15% of the words had been in the passive vocabulary before the course, and less than 5% in the active vocabulary. There was however one exception: Mr. C (Table 2) knew more business words than any of the other students, although his general English vocabulary was about average for the group. Since the goal of the experimental class was to test the core of the method described in *Superlearning* , and since it was impossible to determine how many new words Mr. C actually learned during some of the sessions, some of his scores are not included in the final statistics.

Times and Places of Meetings

The lessons were 1 ½ hours per day on consecutive workdays, from

4 to 5:30 in the afternoon, with two minor exceptions (see footnotes a and b to Tables 1 and 2). Therefore

- all participants came to class after a full working day, so that a certain level of tiredness had to be overcome;
- we had the advantage of regularity, by holding all the classes at the same time of day; and
- the lessons were entirely on the employees' free time, which can perhaps indicate the students' high level of motivation. There was no compulsion or pressure to attend classes, but neither was there any interruption or relief from the normal working day.

Immediately after each class, there was a 10 to 15 minute vocabulary test, so each complete session usually lasted until 5:40 or 5:45.

All lessons took place in rooms provided by the Nestle company, in the office building where all the students work. Two rooms were made available; both were quiet and pleasant.

D. Procedure

The first three class meetings were introductory sessions, devoted to a general explanation of the method and to exercises in relaxation and breathing. (However, it should perhaps be mentioned that reports by visitors to Bulgaria and other Eastern European countries indicate that Dr. Lozanov is not currently advocating breathing techniques and relaxation exercises. See for example G. Racle (1976, p. 159, footnote 23), and D. Devyatkin (1976, p. 346). Ostrander and Schroeder (1979, p. 67) also hinted very briefly at the possibility of eliminating the relaxation training.

The fourth to tenth meetings were the actual learning sessions, organized as follows:

(1) The first few minutes were usually needed to allow everyone to assemble, put out the cigarettes, get re-accustomed to the room and the atmosphere, etc. Often we had short discussions about the method.

(2) About one hour was devoted to a list of the material to be learned. The list consisted of English words and phrases, with no German translations and only a few short sentences. An example of a typical vocabulary list is in Table 3. The students attempted to guess the meaning of each word; if they guessed correctly I gave examples of the word in phrases and sentences. If no student could guess it, I offered hints, such as saying the word in a sentence. After it was clear that all students understood the meaning of the word, we proceeded to the next word on the list.

(3) The students then went into a state of deep relaxation. First they stretched vigorously, and then, following my instructions in English, they relaxed each part of the body in turn, starting with the toes and ending at the head.

(4) The students began breathing according to the rhythm described in *Superlearning* , chapters seven and eight. I read the words aloud, first the German translation and then the English word, in the same rhythm.

(5) While continuing the rhythmic breathing, they heard music selected by Dr. Lozanov, as listed in *Superlearning* , and again I read the list of words, again in the same rhythm.

(6) They came out of the state of deep relaxation.

(7) As a test, I read the German translation aloud and the students wrote the English word. The tests measured the students' active vocabulary (ability to produce an English word as needed), which is of course more difficult to acquire than a passive vocabulary (ability to recognize English words when heard or read).

As will be clear from this description, a number of important elements of the method were intentionally omitted. For example, Ostrander and Schroeder wrote,

> Before beginning the supermemory session, it is important to go over the material you wish to learn and review it as vividly as possible. You can even try going over it as a game, play, or dialogue. (p. 108)

This we greatly simplified, as can be seen in step (2) above. Furthermore, Ostrander and Schroeder wrote,

> The teacher's behavior is also organized so that nonverbal cues like gestures, tone and facial expressions are directed toward increasing students' motivation and self-confidence. (p. 33)

However, I did not consciously attempt to increase nonverbal support of the students; I merely continued my customary classroom manner.

III. Results

A. Test Results

The tests given immediately after the learning session show that every student was able to learn at least 50 words in a session, as indicated by Tables 1 and 2. Two students had a top score of 66 words per session, one learned 65 words, two 59 and one 51. For one student the top score cannot be determined because he knew many of the words before the course; for him some of the sessions were merely an effective way to review his vocabulary (see Section II B).

The tests were administered after each class had been scheduled to end; therefore each session usually ended at 5:40 or 5:45 rather than 5:30 as originally planned. After the second and fourth sessions one or more of the students had to leave exactly at 5:30 for prior commitments, in which case I asked the student to test himself at home with the list of German translations which I gave to all students. The results of the tests at home were always in accordance with the tests in the classroom and with my general assessment of the students' vocabulary level, but for the sake of precision and accuracy I excluded the tests at home from the final statistics.

There was no correlation whatsoever between the ages of the participants and their test results. The test scores of the older participants (ca. 45 to 55) were spread over as wide a spectrum as those of the younger participants (ca. 25 to 35).

B. Retention of Material

At present it is too early to know how much of the material the students will retain. However, Student E told me that he knew more of the words during his review at home (one week after class) than he knew for the test (immediately after class).

On the other hand, Student B told me that about three weeks after the course he remembered only 70% of the words, and Student F reported only 60%. For some of the students in this experimental course, the retention rate may well fall below the high rates of retention which, according to Ostrander and Schroeder (1979, pp. 34 & 40) have been achieved by Bulgarian and East German researchers because of the simplifications made in order to adapt the method to the limited goals of the experiment and the limited time available.

C. Attendance

Attendance was almost 100%. Mr. A had informed me before the course began that he would have to miss the first lesson due to an important business meeting, but otherwise no student was absent from any lesson.

IV. Conclusion

The course demonstrated to me that the combination of techniques described in *Superlearning* - enhanced expectations, relaxation exercises, breathing techniques and music - can be used to accelerate the memorization of foreign language vocabulary. But due to its inherent limitations, the course could not indicate which of these elements are more effective than others, nor could it show which, if any, are placebos.

The method clearly merits further research.

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Table 1

Classroom data by class day

Class day	No. words presented	No. words learned	Learning time (min.)	Relaxation time (min.)
1 Fr 14th[a]	31	27	46	20
2 Mo 17th	38	27.2[c,d]	44	18
3 Tu 18th	40	35.1[e]	68	15
4 We 19th	53	52.5[f]	75	7
5 Th 20th[b]	68	59[g,h]	71	8
6 Fr 21st[a]	53	48.4[i]	78	8
7 Mo 24th	67	55.7[g,j]	64	8
Average:	50	43.6	63	12

Table 2

Number of words learned per student by class day

Class day	Student						
	A	*B*	*C*	*D*	*E*	*F*	*G*
1	absent	26	31	26	26	26	27
2	34	(18)[f,k]	29	(19)[c,k]	(29)[k]	20	26
3	37	40	40	35	20[e]	37	37
4	53	53	g	(34)[k,l]	51	(50)[k]	53
5	66	66	g	57	(17)[h]	59	47
6	51	52	50	52	47	47	40[m]
7	65	57	g	59	31[j]	57	65

Note: numbers in parentheses are not included in the computations of averages

Notes to Tables 1 and 2

a) On Fridays the class met earlier, from 12 noon to 1:30, because the prospect of learning until 5:30 on Friday afternoons did not seem to arouse wild enthusiasm.

b) The class on Thursday, March 20th, began at 4:30 and ended at 6 p.m., since I had another teaching commitment that day.

c) On this day I tried a variation of the method: I presented the words as part of a short dialogue, without giving the students a separate list of the English words. Most of the students did not like it, with Mr. B and Mr. D reacting particularly unfavorably. I did not repeat the attempt.

d) The test results of Students B, D and E were excluded from the computations of averages (see note k below).

e) Mr. E was worried and could not relax well because the class started about 10 minutes late, and he had to leave at exactly 5:30 p.m.

f) The test results of Students C (see Section II B above), D and F (see note k below) were excluded from the computations.

g) The test results of Student C were excluded from the computations of aver ages (see Section II B above).

h) The vocabulary presented a problem for Mr. E on March 20th, when some of the words and phrases came from fields of business unimportant to a computer programmer (for example, "letter of credit" and "bill of exchange"). Mr. E, a computer programmer, told the other students and me, "I don't want to learn these words. I don't need them, and I don't even know what they mean in German." Although the words in question had appeared in the lists circulated prior to the course, and although the three managers seemed interested in learning these words, seen from Mr. E's point of view the complaint appeared to me justified. For the following lessons I was careful to include only words which would be useful to all the participants, but I did not include Mr. E's

March 20th scores in the final computations.

i) On Friday the class atmosphere was unusually relaxed. The long-term benefits from the positive atmosphere seemed to me more valuable than the presentation of a certain number of words, so on this day I presented fewer words than I had originally intended.

j) Student E spent the afternoon of the seventh session at the dentist, having three caps placed on his teeth. He returned to the Nestle building only 10 minutes before class began, and was in discomfort during the class. In addition, he had had a difficult morning at work. Nevertheless, he learned 31 words in 64 minutes.

k) The student had to leave class at exactly 5:30 so he tested himself at home. Therefore his test result could not be included in the computations.

l) Mr. D told the teacher after class that he had been unable to relax: he had had a difficult day at work, and his wife was home, ill with inflamed tonsils.

m) Student G was unavoidably delayed and came to class a few minutes late. He missed the presentation of the first few words.

Table 3

Word list on Day 6, 21 March 1980

to inherit	inheritance
heir	heiress
flat	smooth
uneven	rough
at all costs	to pave
tyre (Br.)	tire (Am.)
a puncture	a flat tire (Am.)
parent company	to wind up (a watch/clock)
preface	a ruler
to accumulate	to appoint
to be at stake	to have a lot at stake
backbone	spine
at all costs	
blackmail	to blackmail him
to bring up to par	to by-pass
to cite	(to have) connections
commitment	to commit oneself to...
conscious decision	crucial
deadline	to defer action
disposable	eventually
emphasis	to emphasize

to stress
to exploit
to go along with...
to justify
What a mess.
a nuisance
pretext
to persist
persistent
to make redundant
to be reluctant to do it
to retrieve
to be in short supply
substantial
sympathetically
time-consuming
to what extent
a waste of breath
special delivery (Am.)
prospectus
to subscribe to a magazine
switchboard
operator (Am.)
to write off
(We'll write it off)
(It depreciated.)

to be *under* stress
Let's face it.
inconsistent
a mess
to *make* a mess *of* it
What a nuisance.
That's only a pretext.
persistence
to be redundant
reluctant
to replenish
a risk worth taking
to spread rumours
sympathetic
likeable
tough
to be wary of...
we were compelled to...
to dismantle a machine
an issue of a magazine (the June issue of...)
I have a subscription to...
switchboard (Br.)
good intentions
(The road to hell is paved
with good intentions.)
to be in semi-retirement

Un cours de langue étrangère basé sur les Fantastiques Facultés du Cerveau (Superlearning)
Dans cet article, l'auteur décrit son adaptation très réussie de techniques prises dans le livre Superlearning à l'enseignement de l'anglais à sept étudiants autrichiens.

Fremdsprachenunterricht auf Superlearning basiert
Der Verfasser beschreibt seine erfolgreiche Verwendung von Methoden aus dem Buch Superlearning bei dem Englischunterricht für sieben Österreichische Studenten.

Un Curso de Idioma Extranjero

Basado en Super-Aprendizaje

El autor explica su adaptación exitosa de las técnicas del libro Super Aprendizaje para enseñar inglés a siete estudiantes austriacos.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(1)

Facilitating Learning through the Building of Morale

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Abstract

The problem of a high-school student with learning difficulties was conceptualized as a case of "demoralization" in that he was unable to cope with his school situation. A morale building programme embracing the elements of relaxation, positive suggestion and success imagery was employed during six half-hourly sessions spread over a period of seven weeks. The success of this approach suggests it may provide a viable alternative to current remedial practices.

Introduction

Bobby Graham, aged 15, was not doing well at high school. His grades were poor, he was failing most of his subjects, and his dislike of school was obvious in his classroom behaviour. Remedial work in Mathematics and English had produced no improvement in his performance, and his reports reflected his teacher's belief that he had serious "learning difficulties".

This term "learning difficulties" is an interesting one, embracing as it does a wide range of classroom problems. The implication of deficiency within the child is often indicated by teachers' use of the term, and sometimes this might be true. On most occasions, however, it is not the child who is at fault but the methods being used to "teach" him.

When we consider teaching as an activity, it is enlightening to note the striking similarities it bears to psychotherapy. Both learning and healing come from within the individual concerned. As teachers we can establish conditions which facilitate a child's learning: as therapists we can establish conditions which help a patient cure himself. That is, in both areas, we can only guide people towards solving their own problems. We cannot solve such problems for them.

Perhaps the most important aspect of such guidance is building morale. In the case of Bobby Graham, he lacked confidence in his ability to learn. In fact, he expected to fail and to encounter difficulties in every aspect of his school work. In Frank's (1972) terms, he was "demoralized", a state which occurs: "... when a person is unable to cope with a life situation which he and those about him expect him to be able to handle" (p.33). Because Bobby was unable to handle his school situation, he experienced depression, self-blame, guilt and shame, which were externalized as obstructive classroom behavior and a negative attitude to academic work. To help him overcome these difficulties, it was decided to adopt a therapeutic confidence building approach administered by a teacher new to the school who had not previously taught Bobby.

The building of morale

The basis of all therapy, whether it is applied to the psychiatrist's couch or the teacher's classroom, involves four key factors (Torrey, 1972). The first of these is *labelling* . If a therapist or teacher can demonstrate his understanding of a persons's problem by identifying it with a name, he is able to effect a great reduction in anxiety. The label must make sense and, in the situation outlined with Bobby, the concept of "demoralization" was explained in a simple, straightforward way. Thus some of Bobby's frustration was relieved by the simple expedient of making concrete his problem, for this enabled precise steps for solution to be formulated co-operately between him and his teacher.

This co-operation was actually a reflection of Torrey's second key factor which embraces certain personal attributes customarily displayed by the effective teacher or therapist. These include *genuineness* , with the teacher revealing himself/herself as a real person rather than as someone playing a professional role: *unconditional acceptance* of the student, as he/she is rather than as the teacher thinks he/she ought to be: and *empathy* , where the teacher attempts to see events through the eyes of the child. The person displaying these attributes to a marked extent is likely to help the student or patient handle his/her problems effectively. Accordingly, the teacher working with Bobby accepted him as he was, obstructive and negative, attempted to understand his point of view, and related to him on a friendly, non-authoritarian basis.

Because the teacher established this form of relationship with Bobby, he found he was able to mobilize the boy's belief that his morale could be restored and, with it, his ability to handle the existing undesirable learning situation. *Belief and expectancy* , Torrey's third factor, embrace the concept that a patient gets well when he/she believes he/she can be well. This expectation of "cure" is often a function of the therapist's belief in himself/herself and the methods he/she uses. Similarly, a student such as Bobby may overcome the blocks which are impeding his learning efforts as he comes to believe he can do so. In other words, he gains confidence that he is capable of accomplishing things which he previously felt were beyond him. Bobby believed his new teacher could help him: the teacher believed he could help Bobby. Such a combination is very formidable, for effective therapy has been described as a process which takes place between two believers.

Technique is the last of Torrey's key factors. However his position, based on a cross-cultural study of therapy as it is practiced in many different societies, is that the actual methods used to effect change may not be as important as we tend to think they are. As long as the therapist or teacher believes in the healing power of the technique he/she uses, and is able to transmit this belief to the patient or student, he/she is likely to bring about the desired positive outcome. Bobby's teacher used the technique to be now described because he had employed it previously with good results. He expected it to be successful, and his enthusiasm was contagious, for Bobby believed it would work for him too.

Using the RSI technique

This technique, involving relaxation, suggestion and imagery (RSI), has been used successfully to improve the performance of examination-anxious students (Stanton, 1977), University and College lecturers (Stanton, 1978), and student teachers (Stanton, 1979). Initially, the "subject" is shown how to relax very deeply. There are many ways in which this might be done, including concentration upon slow, deep breathing rhythms, developing sensations of heaviness and warmth in the body, and turning inward to a peaceful place in the mind. Bobby's teacher combined two of these. Firstly, he encouraged him to take five deep breaths, letting go all the tension and tightness as he breathed out. Then he was to imagine a "secret place" in his mind where he became calm, peaceful and happy.

As Bobby rested in this sanctuary, his teacher gave him positive suggestions. These were worded in a permissive, almost rambling way, often being very indirect and vague. However they all centred on the idea that Bobby would get better and better in all the ways he wanted to get better, handling his schoolwork the way he would like to do, achieving the results he would like to achieve, and really enjoying himself as he did so. Suggestions about improved concentration, greater interest, and a stronger memory were woven into the "script" as were positive comments about Bobby's own abilities to cope with his schoolwork. Emphasis was placed upon the way he would take control of his own life and his own learning, becoming increasingly confident in his own value and worth as he did so.

The blending of direct and indirect suggestion is a function of my belief that people possess within themselves the power to solve their own problems. Most remedial teaching assumes that everything must be done for the learner whereas I believe that most students, if placed in a morale-building environment, are able to do a great deal for themselves. Thus, the specific suggestions directed Bobby's attention to his immediate problem, helping him feel he had the power within him to achieve school success. This is largely a conscious process. The indirect, rambling, vaguely worded suggestions, on the other hand, were aimed at his subconscious mental processes, allowing him to make use of anything that fitted his particular needs. My therapeutic experience has indicated that, for example, the simple affirmation proposed by Coue many years ago: "Day by day in every way I am feeling better and better" can produce remarkable gains in patient well-being. The interesting thing is, however, such a general, all-encompassing suggestion may be given to, say, five people at the same time and each of them will derive different benefits from it. Apparently, our subconscious minds work in such a way as to select from what is suggested that which helps us most.

After the positive suggestions had been given, imagery, already used as part of the relaxation procedure, was used again. Bobby imagined himself as he wanted to be. He "saw" himself receiving good grades, being congratulated on his work, bringing home commendatory report cards, and enjoying his schoolwork. That is, he visualized success, the target or end-point, rather than the means by which success was to be achieved, for this approach leaves it to the subconscious mind to work out how to achieve the target. The important thing is for the patient or student to "see" his goal clearly and vividly.

Bobby had six half-hour sessions in which the RSI technique was used. The first two were in Week 1 of his "remedial programme", the third and fourth were in Weeks 2 and 3, the fifth was in Week 5, and the sixth in Week 7. No additional sessions were conducted, for by Week 7 Bobby felt no further need of outside help in the form of his remedial teacher. This was due to his belief that he could now control things for himself through his own practice of RSI. This increase in confidence was due not only to his six training sessions but to the very concrete reinforcement of better results in his schoolwork. This improvement became noticeable during the third week of the programme and, from that point, Bobby never looked back.

Conclusion

The "remedial" programme described in this article was not concerned with specific learning skills. Rather it focused on the global concept of confidence. Bobby lacked confidence in his ability to handle his life, in this case, his school life. Because he was demoralized in this way, he became very negative and obstructive, refusing to make any attempt to cope with his work. However, once he developed confidence in himself and his own ability, he showed improvement over a wide range of subject areas. Thus, focusing upon the general, his morale or confidence, led to improvement in the particulars, such as arithmetic skill and writing ability. When we consider this acceleration in his learning processes was accomplished through the stimulus of six half-hour sessions, it seems a gain out of all proportion to the time involved.

Although this article has been written as a case study of one particular student the technique described has proven successful in a more general context. Seven "remedial class" teachers in seven different schools have used the RSI approach. According to these teachers' assessment, based on observation, assignment work, and test results, 43 of the 58 students involved have shown marked improvement. This gratifying result would indicate that RSI works just as well for groups as it does for individual students, thus further maximizing its time/cost effectiveness.

There is a moral for all of us here. We seem to persist in teaching the same specific drills over and over again to our difficult students despite the evidence that we are not achieving success. RSI provides an alternative which is well worthy of a trial, for it embodies a basic truth. When we believe we can do a thing, we usually can do it. RSI, deceptively simple though it may be, is a powerful technique for helping people remove the limitations they have placed upon themselves and encouraging them to expect success rather than failure. By so doing it can change their entire lives.

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Le rôle de la morale de l'étudiant dans l'apprentissage

Un etudiant qui semblait souffir d'un disfonctionnement de l'apprentissage avait, en réalité, un problème de morale, de motivation. Il ne pouvait pas s'adapter à la vie au lycée. Un programme spécial comprenant des exercices de relaxation et de visualisation, des suggestions positives a été élaboré et utilisé pendant une période de sept semaines (à raison de six seances d'une demi-heure chacune). La réussite du programme développé par l'auteur indique que ces techniques doivent faire partie de tout travail correctif.

Die Erleichterung des Lernens durch den Aufbau der Stimmung

Das Problem eines Oberschülers mit Lernschwierigkeiten wurde als ein Fall der gedrückten Stimmung begriffen, insofern daß der Schüler mit der Schulsituation nicht fertig werden konnte. Während sechs halbstündiger Sitzungen, die über sieben Wochen verteilt waren, wurde ein Stimmungsaufbauprogram, das die Elemente von Entspannung, positiver Suggestion und Erfolgsvorstellungen umfasste, gebraucht. Der Erfolg dieser Methode deutet darauf hin, daß sie den heutigen Abhilfsmaßnahmen eine wertvolle Alternative bietet.

Facilitar el Aprendizaje por Medio del Desarrollo de la Confianza

El problema de un estudiante de secundaria con dificultades de aprendizaje se caracterizó como un caso de "desmoralización", debido a que no podía hacer frente a su situación escolar. Un programa para levantarle la moral abrazando los elementos de relajamiento, sugestión positiva, e imágenes de éxito, fué empleado; durante 6 sesiones de media hora de duración cada una, extendidas en un período de 6 semanas. El éxito de este programa sugiere que se puede emplear como una alternativa a las prácticas remediales que se emplean actualmente.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(1)

Accelerating Learning: The Use of Suggestion in the Classroom

Novato, Calif.:
Academic Therapy Publications, 1980.
104pp. Appendices, Tables, Bibliography. $7.00

Reviewed by Lyelle L. Palmer
Winona State University, Minnesota

This landmark book should be considered the introductory primer for all who would be American practitioners of hyperlearning/suggestology in school classrooms. It is at the same time an overview, a detailed step-by-step direction of techniques, and an authoritative source of results of the method. What a delightful 100 pages!

The authors are true authorities in the field through training and experience: Prichard has visited the Lozanov Institute in Bulgaria where suggestopedia was developed, has trained teachers in U.S. colleges, has published more than twenty books and articles on the method, has collaborated with school teachers in employing the procedures, and has served as president of the Society for Suggestive-Accelerative Learning and Teaching; Taylor is a master teacher in elementary special education who has used the techniques extensively in public school settings for the last five years. Thus, the authors are exceptionally well-grounded in theoretical and applied training traditions, but have faced the realities of implementation encountered in real classrooms.

This book consists of extremely clear and readable sections on practical classroom techniques and theoretical foundations of hyperlearning. The authors emphasize that the European techniques require adaptation to settings in U.S. public schools which may be quite different in goals and philosophy from schools in which the methods originated. Therefore, the goal of the authors in this work is an effective communication of the Americanization of the techniques to enable understanding and implementation of these phenomenally successful activities.

Lozanov's suggestopedia is cited by the authors as "alteration of the student's awareness for presentation and repetition of classroom material, and creation of a positively suggestively saturated atmosphere, which seeks to eliminate both external . . . as well as internal distractions." The techniques which accomplish this alteration of awareness are presented explicitly: positive suggestion, desuggestion for negativism, and control of barriers to learning or reception of information. All teachers should read and reread the section on barriers to learning which can be emotional, logical, ethical, or any combination thereof. Separate sections are presented on infantilization for student receptiveness, developing instructional authority (not authoritarianism) in the teacher, double planeness (congruence of subconscious/subliminal and conscious messages), intonation and rhythm of the teacher's voice, passive music listening techniques, and placebo effect. All of these factors are considered the teacher's tools. If controlled and used with skill, these factors increase the ease of acquiring information; if uncontrolled, these same factors can make learning very difficult. The good news is that the teacher *can* be in control by heightening student awareness, and reducing distractions.

Familiar contemporary western (American?) educational nomenclature is used in discussing many effects used in the suggestopedia system: Pygmalion effect, Hawthorne effect, snowball effect, mental imagery, whole-brain learning, and member-of-the-audience effect. These phenomena are applied to teacher verbal and non-verbal suggestion and the management of the physical environment, physical and mental relaxation, mental imagery, and breathing patterns of students.

Teaching cycles for material presentation, repetition, and practice applications are given with examples for reading instruction (sight words, structural analysis, multi-modal teaching, and oral reading) and languages. Adaptations for special needs populations of culturally-disadvantaged and remedial-reading students are also included. An eighteeen-week schedule for reading is presented in two 2-day cycles per week. Evidence for effectiveness is furnished with results of the procedures as carried out by the authors for a sixteen-week period with special needs students. Students showed an astounding 8.5 to 22 months progress for the semester!

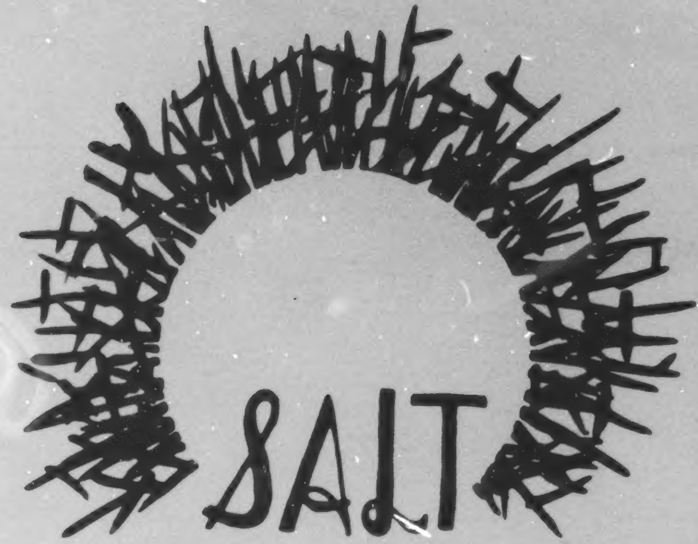
Supplementary information is given on adaptations of the techniques to other basic skills and subject matter areas, supplementary activities, background information on the neurology of relaxation, references, and bibliography for further reading.

This book is a valuable addition to the current literature on suggestopedia and should provide a clear, readable introduction to the concepts and specific techniques employed in hyperlearning. For the experienced SALT teacher, the book is a wonderful review and reference. For the practitioner encountering these concepts for the first time, it is a combination of clarity and scholarship which inspires confidence. This book would make an excellent college textbook for teacher trainers producing workshops or in-service training. It is also a fine self-help reference. The content of *Accelerated Learning* occupies a place of special importance because it deals with a topic too often found lacking in teacher-training programs--the HOW of teaching. All teachers secretly hunger for the knowledge that this book contains. *Bon appetit!*

Erratum: The reports by Krylova and Melnikova, both in *JSALT*, 1980, *5* (2), were papers given at the Helsinki summer seminar in Finland, 1978, and not in Sweden as originally printed.

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Volume 6, Number 2 Summer, 1981



Published by the Society for Accelerative Learning and Teaching, Inc.

ISSN 0273-2459

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Volume 6, Number 2 Summer, 1981

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Subscription rates : $20.00 per year, individual subscription; $36.00 for two years. Outside U.S. add $11.00 per year for air mail; (Canada and Mexico, same as U.S.)
Back issues : $7.00 per copy, $12.00 per doubled copy. List of available back issues sent on request.

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Printed in the U.S.A.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(2)

Games in the Suggestopedic Language Class

Bagriana Belanger
Ottawa, Canada

Abstract

The author speaks about games in the language class as a concrete application of Lozanov's theory concerning the holistic brain development of the student's personality.

Introduction

Until quite recently, play was considered a rather frivolous activity. Parents and teachers joined forces to prevent the child from playing, even during his moments of leisure; he was given extra homework or physical work related to upkeep of the home. Jean Piaget was the first to draw attention to the need to provide time for play, both at home and at school. Indeed, play for the child and the adolescent is a psychological activity inherent in intellectual development and maturation. Today, things are different: school programs provide for a recreational period between class sessions, so that pupils can release their tension and refresh their minds' playing in the school yard. It was difficult however to imagine play's being used outright as a learning activity in the classroom. It was due to *suggestopaedia* that this psychopedagogical revolution took place. In the last ten years, evolution in language teaching methodology has tended increasingly toward the basic principles of suggestopaedia, especially in the area of play techniques.

Suggestopedagogy (or suggestopaedia) is a new pedagogical approach in which the first experiments began in spring 1964 under the direction of Dr. Lozanov at the Institute of Pedagogy in Sofia, Bulgaria. A psychotherapist, theorist and practician of hypnotherapy, Dr. Lozanov earned distinction by his work in suggestology, the general science of suggestion, of which he is the founder. Suggestopaedia is the application of suggestology to the teaching situation. Like Abraham Maslow, Carl Rogers and Moreno, Dr. Lozanov followed a complex scientific road from psychotherapy to pedagogy, and from rehabilitation to education. The term "suggestopaedia" itself was coined by Dr. Lozanov and has two meanings: (1) a new concept of man and his intellectual and psychic faculties, and (2) a new teaching method in various disciplines that applies different pedagogical techniques for removing stress from the classroom and, by means of the particularly motivating suggestive atmosphere, arousing the psychic potential of one's "reserves".

Neuropsychological basis of suggestopaedia

During his clinical practice as a psychiatrist, Dr. Lozanov (1971) observed that the human brain is capable of absorbing and retaining an enormous amount of information. The ability to retain and make practical use of the information depends largely on the subject's emotional state. Psychological factors of confidence, motivation, interest and positive anticipation influence the neuro-cerebral activity and the receptiveness of the brain. Moreover, Dr. Lozanov did experiments with subjects in a state of relaxation (psychic relaxation, sleep or hypnosis) and concluded that memory is distinctly improved when one is calm and relaxed, and when agreeable sensations accompany the transmission of information. In fact, the work of the brain involves not only the cortex, but also the subcortical and neocortical structures, such as the hypothalamus, the reticular formation, the limbic system, the cerebellum and so on. Part of the information enters through the conscious channel, and part through the unconscious. In the reception, memorization and reprogramming of information, the role of the unconscious is just as important as that of the conscious. Furthermore, information transmitted to the brain is always accompanied by peripheral perceptions, which may or may not facilitate transmission and retention (memorization) (Lozanov, 1955).

The basis of suggestopaedia is the neuropsychological theory that man does not make full use of his brain's potential. Research in various countries has established that we use only a small percentage of our potential, a proportion which varies between 4% and 18%, depending on the researcher. As explained by suggestology, this is due to the traditional organization of the education system. According to Dr. Lozanov (1971), the traditional teaching approach does not take into account the function of the cortex and its two hemispheres. Teaching and learning techniques require the participation of the left hemisphere only of the brain: they call exclusively on the localized verbal intelligence of the left part of the brain (in right-handed people). The right hemisphere, the centre of many aptitudes, has been - and still is, to date - very little and very poorly used (Belanger, 1978). It is this part, however, which controls concrete and synthetic thought, the emotions, spatial orientation, intuition, peripheral stimuli, artistic talent and creativity. Suggestopaedia - modern psychopedogogy - proposes educational techniques that ensure the participation of both hemispheres, especially the right one. Thus it activates the overall potential of the brain and develops "reserves". Suggestopaedia is characterized by an improved organization of all factors in the educational situation. We will discuss, specifically, the techniques of play.

Play and suggestopaedia

What is suggestopaedia, really? Literally, the term means "teaching by suggestion". In fact, it comes from "desuggestivo-suggestive" psychotherapy, which implies that the teacher requires special training, as well as ample teaching experience and a sensitive pedagogical intuition (Lozanov, 1971).

Originally, suggestopaedia was applied to the teaching of modern languages (between 1964 and 1970); then, in 1970, experiments in suggestopaedia were extended to the secondary schools of Bulgaria with a view to applying the method to the teaching of other academic disciplines. In 1972-1973, the first elementary school opened in Sofia, Suggestopaedic School 122, whose children, undoubtedly more suggestible than adults, learned to read, write, do arithmetic, study history, geography, the natural sciences and so on using this new educational method.

Applying psychotherapeutic techniques in the classroom, particularly educational play, cathartic play and role play, suggestopaedia attempts to transform learning into relaxation and pleasure, while acting as an effective and creative teaching method. Throughout the course, the teacher, surroundings, lesson texts and teaching techniques together contribute to the maintenance of the suggestive atmosphere with its positive affects.

In a suggestopaedic modern language classroom, everything is play and everything is serious. The student comes into a clean, cheery classroom that is well lit and well decorated, sits in a comfortable armchair and waits for the teacher's arrival in a positive frame of mind. The teacher, sympathetic and warm, makes a few positive suggestions about the method and its results in a confident tone, followed by exercises in communication - presentations, "handshakings" and group games - of which the precise psychopedagogical purpose is to reinforce the positive initial effects.

Starting with the first lesson, moreover, the student receive new identities - French-speaking, English-speaking or Spanish-speaking - depending on the language they are learning. The psychotherapeutic effect of this procedure is to free the student from the fear of making mistakes. Under this new name, he expresses through the techniques of role play various creative or repressed tendencies in his inner personality. Throughout the course, the student will take on different roles: he will be a tourist, musician, architect, teacher, lawyer, minister, hotel receptionist, taxi driver, businessman, father, grandfather, mother, grandmother, adult or child. Each time, he will adopt a new verbal and nonverbal behavior; he will be himself and another person at the same time, and the language study will be an "experiential" learning exercise for him, to use Rogers' term.

The role of the teacher in suggestopaedia is clearly very important. He must work on several levels: linguistic content, psychopedagogy, psychological climate, group dynamics and personal development of the student. In accordance with suggestological theory, the language course must give the student a large body of knowledge, but it must do so in an atmosphere of relaxation, pleasure and stimulation.

In suggestopaedia, play comes into the classroom as a deliberately used teaching method. It is not just a psychological play activity (the effect sought is not just relaxation); it is an integral part of both teaching and learning at the same time.

While throwing a ball to a student, the teacher can improvise a little grammar, a chain of questions and answers, some vocabulary on a particular theme, a little structure re-use and so on. Doing a round of mime or an easy song, to actualize part of the vocabulary, the student makes learning an interesting activity. A proverb introduced into the appropriate context causes reflection on the universal aspect of the culture conveyed by the target language. In addition, the teacher organizes his language course around a theme or center of interest and gives his lesson a semantic and meaningful orientation. The students are thus presented with a whole composed of various links that are its constituent parts. In this way, they develop idea associations and their functional memory, which will help them in the practical use of their lesson's linguistic content (Belanger, 1980).

Development of the suggestopaedia language manual

In developing the suggestopaedia manual, author Aleko Novakov has been guided by two sources:

1. the work of Soviet psycholinguists,
2. the Schomskyan theory of linguistic universals.

Of course, these two sources are incorporated into the suggestological theory of Dr. Lozanov himself and in the language course, associating language behavior with the student's overall behavior.

But what is the language act? According to Zimmaya (1972), it is a psychological activity with three dimensions:

1. intentionality or the need to communicate;
2. formulation of the message;
3. the vocal production of the message (or idea).

Intentionality comes essentially from the desire to communicate, or inner motivation. But the situational context is what determines (creates or fails to create) the desire to communicate; hence the importance given to development of teaching materials.

Speaking is saying something to someone in a given situation. To speak, one must want to speak. How can the student learn to speak if the linguistic models suggested in the manuals simply leave him apathetic or indifferent? Furthermore, the classroom, cluttered as it is with benches, chairs, projectors and useless objects, confines the learner in a tedious academic environment that has nothing to do with any real communication situation.

To avoid these disadvantages, Novakov takes the opposite approach from traditional manuals. He proposes linguistic models involving the student emotionally and incorporates them in a rich and varied situational context. This ensures a desire and a need to communicate from the beginning to the end of the first-level course.

In the first dialogue, entitled "Getting to know each other", (TRANS: "Faisous connaissance") we read the following:

-Quel est votre nom, Monsieur?

-What is your name, sir?

-Mon prenom est Leon. Mon nom de famille est Caron. J'habite au Gabon. J'habite onze, rue de Pont.

-My surname is Caron. My given name is Leon. I live in Gabon. I live at eleven Du Pont Street.

-Quelle est votre profession, Monsieur Caron?

-What do you do, Mr. Caron?

-Je suis ingenieur des telecommunications.

-I am a telecommunications engineer.

It is quite clear that this kind of dialogue serves as a pretext to place the students in communication situations in which through role play, each introduces himself, shakes his neighbor's hand, asks him questions and talks about himself voluntarily, covered as he is by his false identity.

In the eighth dialogue, for example, entitled "Exchange of views", (TRANS: "Echenge de vue") we read the following:

-Combien de cigarettes fumez vous par jour?

-How many cigarettes do you smoke a day?

-Rien que deus paquets, pas plus.

-Just two packets, that's all.

-Mais vous exagerez; vous vous empoisonnez! Vous vous suicidez, je vous assure.

-But that's excessive! You're poisoning yourself! You're committing suicide, I promise you.

-Mais pas du tout: je me porte tres bien, comme vous voyez.

-Not in the least; I'm very healthy, as you can see.

-Savez-vous que le fumeurs se tuent lentement?

-Don't you know that smokers kill themselves gradually?

It can be seen that the student taking part in this kind of dialogue learns the reflexive verbs more easily, besides always being able to return to the eternal debate between smokers and non-smokers.

By means of the emotional aspects of the linguistic content and pedagogical techniques, an appeal is made, not just to the intellect, to logic and to the attention, located in the left hemisphere of the brain, but also to the psychic faculties of the right hemisphere, such as the imagination, artistic sense, intuition, musical talent and so on. In the modern language classroom, the suggestopaedia approach alternates intellectual activities with play techniques: linguistic games, role play, sketches, songs, rounds, competitions, riddles and so on (Novakov, 1973). Contrary to the older slow, tedious and even anxiety-causing methods, suggestopaedia maintains positive emotions and motivation through play, which explains why students in suggestopaedia classes are not tired, even after four hours of intensive class work. Through its comprehensive design and its application, through development of the manual and its use in class, and through play and music, suggestopaedia reestablishes a balance between the work of the two hemispheres, so that learning is no longer a lengthy, painful process, but an agreeable psychopedagogical activity.

We have here a language teaching method which, in addition to being intensive and accelerated, ensures development of the student's personality and creative faculties.

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Le rôle des jeux dans l'enseignement suggestopédique des langues

L'auteur parle du rôle important des jeux dans l'enseignement suggestopédique des langues. D'après Lozanov, les jeux et les sketches doivent mener à l'épanouissement de l'étudiant, au déploiement de ses réserves fonctionnelles.

Spiele in dem suggestopädischen Sprachunterricht

Die Verfasserin spricht über Spiele im Sprachunterricht als konkrete Anwendung von Lozanovs Theorie der holistischen Gehirnentwicklung der Persönlichkeit des Studenten.

Juegos en la Clase de Idiomas "Suggestopedia"

El autor habla de los juegos en clases de idiomas como una aplicación de la teoría de Lozanov en cuanto al desarrollo holístico del cerebro de la personalidad del estudiante.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(2)

Psychological Modeling and the Dimensions of Human Consciousness

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Abstract

Three models of psychology and human conciousness are presented, behavioral, humanistic and transpersonal. Our personal choice of one model or another affects considerably how easy it is for us to change ourselves, if indeed we can change or grow at all within that model.

In this paper I want to reflect upon how psychology is being done today. In reflecting upon the socio-political and socio-economic and socio-religious applications of the experimental and clinical findings of psychologists and other scientists and investigators in related fields, it is becoming increasingly evident that an informed public clearly does recognize many dimensions to human consciousness.

The basic assumption guiding my reflections is the fact that people operate according to certain models of themselves and of others which they have in their heads. This includes psychologists and other intellectuals and scientists as well (Bandler and Grinder, 1979; Gordon, 1978). Now models have peculiar characteristics. First of all, models can be contrasted with theories. Models immediately as possible and as concretely as possible represent somet hing directly observable, and something which can be literally manipulated. A model once communicated to another human being can be imitated or replicated (Bandler and Grinder, 1979).

Models are neither explanations of reality, nor are they right or wrong, logical or illogical. Models are either easily communicated or difficult to communicate to others; models are either helpful or of small help to us; they are either adequate or inadequate for the purposes for which they are designated; models are either useful to us or even less than useless to us. In short, any model of human experience, insofar as it is a model, must be as specific and as empirical as it is possible for us to formulate the model. I mean simply: it must be based on what someone can see, hear, feel, taste, smell. A model is content-free, that is, specific without being individual. It includes definite criteria for doing whatever you are doing. A model, then, can tell you what to do, when to do it and what you can expect as a result (Lankton, 1980).

I experience great difficulty in getting university students to think about psychology in terms of developing models of psychology to represent anything as imme diate and as simple as human dialogue, let alone to develop a model representing human consciousness. The reason for this seems to be that our students seem to have had relatively little practice in what I refer to as the habit of deliberately modeling the different ways in which we can psychologically experience reality.

Most students, if I may generalize from my many years of teaching psychology to adults, approach the study of psychology without much practice in describing how they behave in given situations or how others behave in the same situations. Mostly they judge or question the rightness or wrongness of what they are doing or feeling, or what others are doing or feeling. Or they analyse motives and intentions. Seldom if ever do they describe what they or others are doing or feeling, or do they question with a view to clarifying what they or others are experiencing. In many instances, I have discovered that such students just have not developed a vocabulary for adequately describing their personal experiences.

It would appear that many psychologists who practice psychology in a clinical setting can seldom describe what they do that works when what they are doing is working. They have theories which they believe are guiding their behavior in doing psychotherapy, but research has shown that what they believe they are doing often differs from what they are actually doing when their recorded behavior has been played back to them on audiotapes and videotapes (Bandler and Grinder, 1975).

More often than not students of psychology ask "why" questions. Why do people act as they do? Why do I feel as I do? Why do I get depressed? Why do I feel lonely? Why do I get so nervous about speaking in public or giving a concert? Why do some people learn to speak new languages more easily than others? Why do boys do better than girls in mathematics? The *why-questions* seem to be the only questions most adult students are prepared to ask. It's as if knowing in the answer to "why" I will have the solutions to all my problems. To ask "why" is to ask for a theory which tells us or explains to us what really makes us "tick." Perhaps the assumption here is that the most valuable kind of knowledge is the kind that tells us about our true nature as human beings. Notice the phrase "true nature." How would we ever know when we have reached that discovery which reveals to us our true nature? This, of course, is a question not many of us are prepared to answer, even supposing that we could give an answer to such a question.

While this approach may satisfy the habit of speculative thinking, it does not always give us much help in deciding what to do in the here and now, in the meanwhile-back-at-the-ranch kind of everyday decisions we have to make. I have found that university students when studying human psychology are much more comfortable and facile at speculating and generalizing than they are at careful observation and description of what they and others are saying and doing. I have noticed in myself also that excessive theorizing develops along with a critical and judgmental attitude, ultimately encouraging rigid thinking and closedmindedness.

Bandler and Grinder (1979) have remarked on this phenomenon, to quote:

> Most knowledge in the field of psychology is organized in ways that mix together what we call "modeling"--what traditionally has been called "theorizing"--and what we consider

> *theology* (p. 5).
>
> The descriptions of what people *do* have been mixed together with descriptions of what reality "is" (pp. 5-6).
>
> What has developed in psychology is different religious belief systems with very powerful evangelists working from all of these differing orientations (p. 6).

If we want to know, as teachers, what psychological model or models we are applying to our teaching, or what psychological model or models we are developing for teaching, we must be willing to explore with others what outcomes we are getting from what we are doing, or what outcomes we are missing from what we are not doing. In other words, we want frequently to be asking ourselves what outcomes are we working toward when we do whatever it is that we are doing, or what outcome is the other person working toward whenever she or he does whatever she or he is doing.

If we are interested in accurately describing the model that we or any other teacher is following, then we must pay very little attention to what people *say* they *do* and a great deal of attention to what in fact they are *doing*. Then using this information a modeler builds a model of what she or he is doing (Bandler and Grinder, 1979).

Bandler and Grinder stress that a modeler is a *pracitioner* , not a psychologist, nor a theologian, nor a theoretician. Modelers, as such, have *no* idea about the "real" nature of things and are not particularly interested in what's "true." The immediate task in psychological modeling is to arrive at descriptions which are *useful* . Models are useful if our modeling is *successful* , meaning if "we can systematically get the same behavioral outcome as the person we have modeled." A stronger criterion of success occurs "when we can teach somebody else to be able to get the same outcomes in a systematic way" (Bandler and Grinder, 1979).

In psychological modeling our goal is to figure out what effective teachers do, or effective parents do, or effective counsellors do, or effective communicators do, or effective therapists do either intuitively or consciously, and to make some rules that can be followed by someone else (Bandler and Grinder, 1979). Rules tell us to do specific things in a specific sequence. Then we must *practice* until these things become a systematic part of our unconscious behavior (Bandler and Grinder, 1979).

Now, it seems to me that every psychological model of teaching addresses itself to two very important phenomena involved in teaching and learning, namely, discipline and motivation. A teacher in my opinion is someone who is not only disciplined himself but can also get students to exercise discipline in themselves, the kind of discipline which facilitates teaching and learning, rather than the kind of discipline that immobilizes the teaching ability of the teacher and the learning ability of the student. Obviously, a certain degree of self-discipline, no matter how minimal, is necessary if we are going to be able to teach students or if students are going to be able to learn. Discipline is simply an ability to get people to marshal their own resources, their own efforts and their own energies over a given period of time to accomplish a given outcome or outcomes. Self-discipline is simply an ability to get ourselves to marshal our own personal resources, our own personal efforts and our own personal energies over a given period of time to accomplish a given outcome or outcomes.

As teachers, we must also be motivated to teach and our students must be motivated to learn. Whatever we do must fan rather than dampen the flames of the desire to teach and the desire to learn. We want to be able to get students to work for us teachers and for their own benefit as well. More than this, we must want to do our best for our students and we must want them to do their best for us. Of course, we all have a certain degree of self-motivation or nothing at all would ever happen. This means that doing our very best is done as a result of our own initiative, without looking to others for approval, and taking responsibility for our own accomplishments.

Actually, we are all capable of disciplining and motivating others, as well as being capable of self-discipline and self-motivation, if we know how. The purpose of a psychological model is to show us how.

I propose a threefold division of psychological models: behavioral, humanistic and transpersonal. These three families of psychological models may be considered to represent three dimensions of human consciousness. In effect, what I am proposing is a metamodel of psychological modeling.

The Behavioral Dimension of Human Consciousness . The behavioral perspective limits us to the *objective* aspect of human experience as opposed to the introspective or *subjective* (Skinner, 1951, 1974). The objective approach to the study of human beings is a perspective in which we become preoccupied with quantifying behavior in order to be able to predict outcomes of behavior. The ultimate expectation is to gain complete control of the behavior of human beings. It is from this viewpoint that some behavioral modelers talk about conditioning or programming human beings or about human beings' having been conditioned or programmed. This kind of psychological model is often alleged to advocate the practice of "brain washing" (Sargant, 1957, 1974). It is also criticized as presenting a mechanistic, dehumanising and somewhat superficial perspective of the extent of human consciousness.

Behavioral modelers talk about learning as *conditioning* . In a behavioral model, we want to be able to determine in precise operational terms how we as *subject respond* to *environmental stimuli* . In the behavioral model we would find such descriptors as "reinforce, reinforcers, reinforcement, schedules of reinforcement, extinction of a response, rewar ds, punishment, shaping, sequencing responses."

The key here is to define consciousness in terms of conditioned responses formed as a consequence of environmental circumstances. Teaching and learning from the viewpoint of behavioral models would be accomplished through a process of identifying and manipulating environmental stimuli in order to produce a clearly observable response whose outcome can be measured in some precise way. Examples of this kind of model in education would be programmed instruction, computer-assisted instruction, biofeedback training, behavior therapy, interaction analysis of classroom dialogue.

The Humanistic Dimension of Human Consciousness . The humanistic perspective is a move away from the limitations of behaviorism. Here we acknowledge the *subjective* and introspective dimensions of human consciousness. By subjective and introspective, we mean not directly accessible to being observed by others, nor amenable to quantification and direct measurement.

The outcome wanted in humanistic modeling is something called *personal growth* (Carney, 1976). The emphasis is on the personal rather than the impersonal. We talk about personalities, people, not subjects. Also, the outcome of growth is subjectively defined and open-ended. So the humanistic model is a *growth* model, not a conditioning model.

In a growth model we are the one to decide what growth means, and we take responsibility for that growth. Growth is not something that happens to us from without or something done to us outside of our awareness; it is something which we freely and in awareness choose to experience without coercion or subversion and in which we consciously participate through a process called encounter. This involves paying close attention to our internal states and confronting ourselves and others with our feelings and perceptions.

In the humanistic perspective self-expression and human dignity are important. The theme is freedom of consciousness, moving beyond the limitations and oppressiveness resulting from unconscious environmental control. This means activating inner resources to cope with the demands and pressures of environmental circumstances, especially the pressures that come from other people, whether these people be friends, colleagues, family or lovers.

The kind of language you will find in humanistic models are phrases such as "sensitivity, awareness, assertiveness, OK-ness, joy, self-actualization, 'peak' experiences, centering, authenticity." Examples of humanistic models would be Teacher Effectiveness Training, Rational Emotive Therapy, Client-centered Therapy, Transactional Analysis, Gestalt Therapy, Encounter, Conjoint Family Therapy.

The Transpersonal Dimension of Human Consciousness . The *transpersonal* dimension is one which would have us transcend even the limitations of being human, that is, to move beyond either the objective or subjective dimensions of human experience (Castenada, 1968). It would have us *transcend* our present concepts of what being human means through a process of *spiritual transformation* (Bakula, 1978). Some spiritual teachers talk about an inner life, about pursuing an inner path which is not of the world although pursued while living in the world (Goldstein, 1976). This transformation process, called spiritual transformation, is in essence a *transformation* of *consciousness* which fundamentally alters our belief system about who we are as humans and what reality is (Castenada, 1968).

Transpersonal modelers talk about extraordinary powers, in effect *spiritual* powers which *transcend* normal limits of sensory awareness and rational thinking. Some of the descriptors used in this dimension of talk about consciousness are: clairvoyance, out-of-body experiences, inspiration, ecstatic states, trance phenomena, faith healing, spontaneous remission of disease, hallucinatory-type visions, thought-transference, psychometry, enlightenment and illumination experiences (Popenoe, 1976). Here also we would include the extraordinary achievements of the mystics and saints and holy men of all ages.

The transpersonal perspective admits the possibility that we as humans are more than an organism, more than a personality, that we may be these as well as being *souls* , special creatures whose consciousness can attain cosmic proportions. This includes the possibility of being capable of overcoming limitations of space and time to partake of some kind of immortality (Lande, 1976; Goldstein, 1976).

The process of the *transformation of consciousness* incorporates in itself not only processes involved in conditioning behavior, and in promoting personal growth, but also processes unique to itself. Such processes have been known to use ritual involving music, and dance, to make use of practices of meditation, prayer, fasting and self-denial. Some approaches to stimulate the transpersonal experience have included sensory-deprivation tanks, hypnotic- or drug- induced trance, the practice of certain forms of Yoga, and the practice of Charismatic-/Pentacostal Christianity, Transcendental Meditation, Zen Buddhism, and Psychosynthesis.

Summary . Throughout our lifetime we have one of two choices. We can either continue to do what we are doing or we can change what we are doing. If we change what we are doing, we are likely to change what we experience. And this can be risky for us. Depending upon how much we are willing to risk, we can limit the change we are willing to experience simply to some new skill or to some new bit of knowledge. This limits us to conditioning small bits of our behavior a little at a time. Or we can risk a little more by exploiting that dimension of our consciousness which will result in some *personal growth* . Finally, we can take the greatest of risks by making some sort of contact with the transpersonal dimensions of our consciousness and experiencing a *spiritual transformation* of kinds. In each case our choices are only available to us as our awareness of their existence and as courage permits. And these are possible only inasmuch as we have personal models in the form of teachers to show us the way. And from whence come their awareness and courage?

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Modèles psychologiques et dimensions de la conscience humaine

Trois modèles de la psychologie et de la conscience humaine sont présentés: le behaviourisme; la psychologie humaniste; la psychologie transpersonnelle. Le choix d'un de ses modèles pourrait avoir une grande influence sur notre développement personnel, sur les changements qui pourraient s'opérer en nous.

Psychologische Gestaltung und die Dimensionen des menschlichen Bewußtseins

Drei Gestaltungen der Psychologie und des menschlichen Bewußtseins werden dargelegt, die des Verhaltens, die humanistische und die transpersonale. Unsere persönliche Wahl der einen oder anderen Gestaltung hat großen Einfluß darauf, wie leicht es uns fällt, uns selbst zu ändern, wenn wir uns tatsächlich ändern oder in dieser Gestaltung entwickeln können.

El Modelado Sicológico y las Dimensiones del Conocimiento Humano

Tres modelos de psicología y del conocimiento humano se presentan en cuanto a conducta humanista y transpersonal. Nuestra elección de un modelo a otro nos afecta en la facilidad que podamos cambiarnos si es que experimentamos un cambio o un crecimiento dentro de ese modelo.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(2)

Beyond Relaxation: Open Focus

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Abstract

A workshop on open focus was presented at the Sixth International SALT Conference, Iowa State University, April, 1981. Workshop participants were carried through an open focus experience followed by a presentation of the theoretical and practical applications of the open focus method. As a method it appears to provide a higher level of relaxation than progressive relaxation techniques but is somewhat less adaptable and useful than the hyperempiric induction technique. SALT researchers and practitioners should, however, be aware of its existence and possible use in therapy, teaching and research areas.

Dr. Lester Fehmi of the Princeton Medical Center began a series of research projects in the late 1960's which involved training individuals to produce alpha waves in conjunction with biofeedback training. His first work while he was on the faculty at State University of New York at Stony Brook utilized relaxation procedures to facilitate the biofeedback process. Working at first with the Jacobson technique (1938) and later with the Luthe method (1969), he achieved only partial success and concluded that neither were well suited for use in increasing the effectiveness of EEG biofeedback training. Experimentation with posture, music, auditory, and autogenic training led to essentially the same conclusion. By the mid 1970's he had moved to working with the Weitzman Inventory which involves an interrogatory form to promote relaxation. He found that the technique promoted relaxation and two items in particular were quite effective with biofeedback trainees. These two items, "Can you imagine the distance between your eyes?" and "Can you imagine the distance between your ears?" were used with hundreds of successful alpha subjects and led him to develop the open focus technique.

The open focus exercise uses a series of questions which ask you to imagine certain experiences. The directions to the exercise ask questions related to imagining something other than a concrete object, or, in other words, an objectless image. Such imaging activity is best understood by experiencing it. At this time the same directions Fehmi uses with trainees will be used to carry you through an open focus exercise. Afterward, a few comments about the theoretical aspects and some practical examples from research will be provided.

The open focus exercise consists of a series of questions about your ability to imagine certain experiences. Can you imagine letting your mind and body naturally respond to the questions, without giving any particular effort to achieving any one of these images or experiences? For example, when I ask, "Can you imagine the space between your eyes?" you might naturally experience your eyes and then let your imagination flow to the region between your eyes and imagine the space between them. Your objective is not to come up with some number or other abstraction, such as "There are two inches between my eyes." The objective is to very gently imagine or experience that space between your eyes. You initially may imagine or experience the space as a very small region or vague feeling and the space might then grow or change as you continue to maintain your orientation in that region. There will be appoximately 15 seconds between questions, and for that period I would like for you to maintain your attention on the subject of the last question. If you have difficulty experiencing any particular image or experience, don't let that trouble you, just permit your imagination to remain oriented toward the object of the question and let nature take its course. If nothing particular seems to happen or your mind wanders, don't be disturbed. However, when the next question is asked, enter into the associated imagery. Finally, you needn't respond overtly in any way to these questions. Your response will be whatever happens to your imagery or experience when the question is asked.

(The workshop participants were then involved in an experiential demonstration of open focus including approximately 60 questions for imagery (Fehmi, 1975)).

Theoretical Premise

Fehmi observes that individuals who are required to exert effort in order to relax have difficulty and demonstrate slow progress in learning how to control bodily processes and increase phase synchronized alpha production. Difficulty in maintaining motivational momentum or fluxuating between trying too hard and experiencing frustration appear commonplace with biofeedback trainees. The typical technique increases verbal instruction under these conditions, which seems to have limited effect, but is necessary in order to move them to a desired level of EEG control.

Open focus uses a reverse orientation by employing the most effortless task possible. Attention, particularly a narrow focus on either internal or external events must be achieved by excluding all other stimuli. Open focus allows the organism to broaden awareness to include all perceptible events. Large amplitude and synchronous alpha waves are associated with a relaxed state which is not attached to any single event either externally or internally.

The objectless image of open focus requires no focus on an existent entity. When one is asked, "Can you imagine the space between your eyes?" the task is one of clearing objects out of imagery, not forming images within. The objective is to broaden focus, not narrow it. The process dissolves perceptions into, as Fehmi says, "no-thing-ness." The act of distributing rather than narrowly focusing attention removes inner and outer boundaries which is calming and relaxing. Narrow focusing pinpoints attention which may give rise to anxiety and tension.

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Open focus, when achieved by the individual, permits one to lose preoccupation with self, and to an extent, time, resulting in a heightened sense of well-being and a reduction in anxiety and tension. Fehmi has found a high correspondence between high amplitude brain wave synchrony and the unself-conscious state achieved in open focus.

Practical Applications

Used by Fehmi and, to some extent by others, for almost a decade now, open focus has some interesting applications, a fairly well developed standardized technique, and almost no research in the professional literature. Several workshop papers by Fehmi (1972, 1974, 1975), one journal publication (Fehmi, 1980), and two research projects by Stricherz, DeLong, and LaMontague (1979) and Stricherz (1980) are all the references an exhaustive search of the available literature produces. Fehmi's unpublished papers provide good suggestions regarding practical application of his technique, along with some preliminary reports of rather extensive research projects. Hopefully, the final research results to which he refers from time to time in his workshops and papers will soon be forthcoming.

It is best not to attempt either a theoretical explanation of open focus or a description of the open focus state to participants prior to beginning the technique, other than the introduction used earlier during the experiential portion of this program. Fehmi has found that such explanations makes it more difficult to attain the state since it produces an effort toward achieving or duplicating the state. This would seem to be consistent with the need to create an effortless atmosphere. Initial training by Fehmi involves an alpha wave feedback tone from five locations: mid-occipital, mid-parietal, mid-frontal, and left and right temporal lobes. The tone feedback is both informative and a positive reinforcer for the relaxed state. After one training session (one hour duration), individuals practice at home for twenty minutes twice daily for the next week or two using a tape of an abbreviated open focus session similiar to the questions used in this session earlier. The second session uses an abbreviated open focus exercise (30 minutes) and biofeedback training (30 minutes). The third session has the person develop an open focus state without verbalized questions from the counselor or tape. After this point, some modification of the technique to focus on specific problems or symptoms may occur, or it may be used as a preliminary relaxed state inducer for either mental imagery, suggestions, desensitization, or learning activities.

The question format of open focus is used to deliberately avoid resistance and communicate that the learner is in control. The request to "imagine" is chosen rather than to "sense," "feel," or "experience," since it is seen as requiring less effort and suggests more openness. For those rare persons who have a negative association with "space," Fehmi reports substituting "distance," or "volume" with success. Sleep occurs at times during training, but inserting the person's name with the questions serves as an arousal mechanism. Trainees are assured that sleep is a natural consequence, particularly during home practice. If it persists, a change of position or furniture would be in order, since a relaxed but alert state is desired.

Individuals are also alerted to how relaxed states may produce unusual or unpleasant experiences by releasing memories and that this may signal that they are successful in relaxation efforts. If this occurs, they are to acknowledge them but not focus on them. For these, and other distractions, they are to simply return to the next focusing question without self-reprimand.

Open focus training, Fehmi reports, results in an ability to produce alpha waves and achieve a state of relaxation superior to that produced by biofeedback training used alone or in conjunction with other relaxation training procedures. His studies have shown it far superior to progressive relaxation as it is typically practiced. Individuals achieve a sense of well-being, general muscle relaxation occurs without reference to relaxation, reduced blood pressure if originally high, and a positive change in physiological and emotional processes. Open focus has been used successfully with physiological problems, pain control, stress management, and emotional problems with a variety of clients including business executives, students, and housewives. Stricherz, DeLong, and LaMontague (1979) and Stricherz and Stein (1980) found open focus more effective in reducing tension than progressive relaxation but not more effective than hyperempiria (Gibbons, 1974), which utilizes guided imagery techniques. Both of these studies, in addition, eliminated the biofeedback component and used open focus as a relaxation process alone.

While there are promising but inconclusive results from open focus research, it might be reasonable to speculate that, as a method, it produces a higher level of relaxation than progressive relaxation or autogenic methods. This is particularly true if the emphasis is on mind calming or psychological relaxation. On the other hand, hyperempiric methods may well produce even higher levels of relaxation as well as enhanced alertness. In addition, hyperempiria has a wider age range use and lends itself more readily to suggestion and learning tasks.

With additional studies underway, the evidence to date indicates that both open focus and hyperempiria produce a higher level of physiological and psychological relaxation than earlier relaxation methods. This may be, in one way or another, the result which Lozanov (1978) reports achieving without relaxation techniques through the use of more general channels in his method of Suggestopedia. The difference at this point is that both open focus and hyperempiria are techniques which are reported in detail, can be easily replicated, are subject to evaluation, and can be modified for a wide variety of teaching-learning settings.

In the practical applications made with open focus at Texas Tech University, two major changes have occurred. The most drastic is the elimination of biofeedback training in order to use the method as a direct relaxation technique in and of itself. The second is the addition of a music background for both individual and group use by some experimenters. Background music of several types have been tried, with classical music found to be the most appropriate. It would seem that a music background which served successfully for any mind calming activity would be an adequate choice. Baroque or other music with a strong beat which works so well in suggestopedic phases, such as presenting new material, has not been found adaptive. A number of environmental sounds have also been used, with some judged most favorably. As is frequently the case, one centers on those felt to be the best. Without supporting evidence, a preference for the "Ultimate Seashore" recording which has been re-recorded on tape from the original 33 rpm to 45 rpm which, it appears, provides a somewhat more alert background, was developed. Any one of several classical selections which are found to provide a soothing and quieting effect are equally effective.

Only a few demonstrations have been attempted using open focus below the adult level. It requires drastic modifications (we believe) to use the method with children. Brief (five minute) adaptations using selected images have been attempted with some success, if judged by how the mechanics of the procedure progressed. No conclusions may be drawn from our limited attempts with reference to how well it achieved the objective of relaxation or tension reduction. At this point we feel more comfortable with mind calming and guided imagery techniques with younger age groups.

The limited but conclusive results which show open focus to provide a higher level of relaxation than relaxation procedures more commonly used by researchers and practitioners in accelerated learning can not be ignored. Further research and adaptations may make it a more practical method and one better suited for a wider range of subjects. With that limitation, however, it remains a useful tool and one with which those involved in any aspect of relaxation training and research should be familiar. While it currently holds more promise for therapy and research than for use in practical learning settings, it should be apparent that with modifications it could serve those purposes as well.

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"Open Focus": une méthode qui dépasse la relaxation

Ce rapport décrit un atelier qui a été fait au symposium SALT (avril 1981) sur une nouvelle méthode de psycho-relaxation qui s'appelle "open focus." Après une expérience personnelle de la méthode, on en a donné aux participants des explications théoriques et des applications pratiques. Cette méthode, qui amène à une expansion et une concentration de la conscience, semble bien provoquer chez les sujets un état de relaxation plus profonde que des techniques de relaxation progressive; cependant, le "open focus" serait moins utile que l'induction hyperempirique. Malgré quelques réserves qu'on pourrait faire au sujet de cette nouvelle méthode, les membres de SALT ne doivent pas ignorer l'existence de ces techniques d'expansion et de concentration de la conscience car elles pourraient être très utiles aux thérapeutes, aux enseignants et aux chercheurs.

Über Entspannung hinaus: offener Fokus

Eine Arbeitsgruppe über offenen Fokus wurde im April 1981 bei der sechsten Internationalen SALT Tagung an der Staatsuniversität von Iowa angeboten. Teilnehmer dieser Arbeitsgruppe wurden durch eine Übung mit dem offenen Fokus geführt, danach folgte eine Darlegung der theoretischen und praktischen Verwendung dieser Methode des offenen Fokus. Es scheint, daß diese Methode eine höhere Entspannungsstufe heranschafft als progressive Entspannungsmethoden, aber sie ist etwas weniger verwendbar und nützlich als die hyperempirische Induktionsmethode. Aber SALT Forscher und Praktiker sollten sich ihrer Existenz und möglichen Gebrauch in Therapie, Unterricht und Forschungsbereichen bewußt sein.

Mas Allá del Relajamiento: Foco Abierto

Se presentó un taller sobre foco abierto en la Sexta Junta SALT Internacional, Universidad de Iowa, April 1981. Los participantes tomaron parte en una experiencia de foco abierto seguido por una presentación de las aplicaciones teóricas y prácticas del método de foco abierto. Como método, parece proporcionar un nivel mas alto de relajamiento que las técnicas de relajamiento progresivo; pero es menos adaptable y útil que las técnicas de inducción hiperempíricas. Los investigadores y practicantes deben de estar enterados de su existencia y posible aplicación en la terapia, la enseñanza y ramos de investigación.

J. of Suggestive-Accelerative Learning and Teaching, 1981, 6(2)

Beyond Relaxation: Hyperempiria

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Abstract

A workshop presented at the Sixth International Conference of the Society for Accelerative Learning and Teaching at Iowa State University, April, 1981. Workshop participants were provided an opportunity to experience hyperempiric induction, which is a structured guided fantasy based on increased alertness, mind expansion, and enhanced awareness and sensitivity. The hyperempiria experience was used to convey material on the open focus relaxation technique (see "Beyond Relaxation: Open Focus," in this issue). The general theoretical basis of the hyperempiric induction and practical applications of the method were discussed. Suggestions from the experience of the author and colleagues were related and recommendations for use of hyperempiria were covered.

Although we tend to date the practical use of relaxation procedures from Wolpe and Lazarus (1966), their work was but a step, albeit a significant one, in developing relaxation techniques. Two elements of relaxation, mental imagery and positive suggestion, are components of particular interest to those working in accelerated learning teaching and research. These components have been identified by Lozanov (1978), Prichard and Taylor (1980) and Caskey (1980) as major elements which, in combination with others, enhance and accelerate learning.

Chappell and Stevenson (1936) used pleasant scene imagery with peptic ulcer patients who began to experience anxiety. Yates (1946) had patients think soothing words such as "calm" while using pleasant imagery. They were instructed to rehearse concentrating on a key calming word and a restful landscape scene in order to achieve a high level of relaxation. Cautela (1966) and Kahn et. al. (1968) used peaceful scene imagery to treat anxious patients, focusing particularly on having them repeat calming words to themselves. In 1967, Rachman reviewed the existant literature on desensitization and concluded that the major contribution of relaxation to the desensitization process was not the physical components of relaxation which were taken from Wolpe, but the mental relaxation which accompanied the procedure.

Boudouin (1920) reported effective use of positive suggestion during a relaxed state by Bonnett as early as 1911 as a regular part of therapy administered in the Nancy School of Psychiatry. Coue (1922) considered a type of induced positive thinking an essential component of stress innoculation and necessary for developing new coping behavior. These pioneers, along with Brook (1922), however, felt suggestion should be left rather vague and general ("I'm getting better and better," "I'm perfectly easy in my mind"). This approach was used in order to leave the mind free to develop and unfold in a way natural to each individual. Current thinking concludes that such general suggestions are too broad and not specifically individualized. Saying the right thing to yourself or hearing the right thing from someone else is helpful, but not a sufficient condition for relaxation or change. More pointed, direct suggestions are necessary to move individuals to self-confidence, self-awareness, and action. If the emphasis is on opening oneself to greater effort, heightened awareness, or increased learning potential, quite specific suggestions and accompanying mental imagery are a more effective approach than any relaxation technique alone.

Don Gibbons of West Georgia College has, since 1970, been developing a guided fantasy induction technique which includes positive suggestions, mind expansion, and enhanced awareness. It achieves, in addition, a high level of mental or psychological relaxation. Called hyperempiria or hyperempiric induction, from the Greek *emperia* (experience), it denotes greater or enhanced experience or awarenss. Hyperempiria differs from hypnosis in that the suggestions occur in conscious experience. The hyperempiric induction is based on suggestion of increased alertness in a pleasurable event which is free of the negative connotations of hypnosis or other mind expanding techniques (Gibbons, 1970, 1973a, 1973b, 1974, 1975, 1976, 1979).

Gibbons developed several hyperempiric inductions which have been reported in the literature and are available on cassette tape. While originally developed for use with adults, in 1976 he adapted hyperempiria for use with children based on a fairy tale format. Those familiar with guided fantasies will recognize the basic elements in hyperempiria. In addition, increased alertness and enhanced awareness, as well as sensitivity to suggestions, are built into the induction. It serves quite well as a mind calming, psychologically relaxing, suggestive component in introducing material to be learned.

As is typically the case, a direct experience is most helpful in understanding a method. A hyperempiric induction suggested by Gibbons (1974) will be presented both as an experiential opportunity and to introduce material on another relaxation technique, open focus, to workshop participants.* So relax, let your eyes close, and experience a hyperempiric induction guided fantasy.

The workshop participants were then presented a hyperempiric induction demonstration, "On the Beach at Night," from Gibbons (1974), followed by material covering the theoretical and practical aspects of the Fehmi open focus method of relaxation (Fehmi, 1975; Fehmi and Fritz, 1980).

Applications

Since 1978, our graduate students in educational psychology and counseling have been provided training in the use of hyperempiria and open focus. Open focus techniques have been less used in the field, based on reports, due to the fact that they are not suitable for below college age individuals. Hyperempiria has received both enthusiastic support and more widespread application, particularly in use with elementary school counseling groups. Graduates working with school systems also find direct application of hyperempiria in conjunction with other mental imagery, fantasy, and relaxation techniques as they serve as consultants to teachers and administrators. Several have reported success in using the method with hyperactive boys and one graduate found the method most effective in working with children who exhibited high anxiety levels and minor phobic reactions.

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*See "Beyond Relaxation: Open Focus," in this issue.

It appears that Gibbons developed hyperempiria for therapeutic use with individual patients, yet we find it works equally well with groups and for purposes ranging from general stress management to accelerated learning projects. While there is no evidence at the moment, it would seem that heightened self-concept would be an important outcome from hyperempiric experiences. There is no evidence that music or environmental sounds have been used as background to hyperemperic induction, but we have incorporated them from the beginning for what, we believe, is an enhanced imagery and heightened relaxation. Most of the classical music applied to accelerated learning procedures appears to work quite well. Environmental sounds can be matched with the hyperempiric induction for even greater effect (e.g. "Ultimate Seashore" with "On the Beach at Night," and "Mountain Stream" with "Enchanted Cottage"). In some specific applications both music and environmental sounds have been incorporated with success.

Researchers and practitioners of accelerated learning techniques should be aware of hyperempiria as a procedure which is a practical and logical extension of the imagery and relaxation components of their work. Its wide adaptation to group size and application to wide age ranges as well as its appropriateness to a variety of learning objectives make it the relaxation component of choice in many settings. The availability of standard induction fantasies in publications and on tape make for easy and convenient use. The fact that they lend themselves to modification for specific application or simply to suit the preference of an instructor or therapist is another strong recommendation. If one has experience in and feels comfortable with guided fantasy methods, hyperempiria should come as a natural and effective extension of one's repertoire of skills.

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Au-delà de la relaxation: l'hyperempirie

Ce rapport décrit un atelier qui a été fait au symposium SALT en avril 1981 à Iowa State University. Les participants ont d'abord eu l'expérience de la méthode hyperempirique--une induction hyperempirique comprenant une exploration guidée du monde imaginaire basée sur la concentration, l'expansion de la conscience, la vigilance et la sensibilité. Cette expérience hyperempirique a servi de base à l'introduction de la technique du "open focus" (voir: l'article précédent). Après une présentation des bases théoriques de l'induction hyperempirique et des applications pratiques de cette méthode, l'animateur a présenté quelques suggestions pour son utilisation prises, soit dans son expérience personnelle, soit dans l'expérience de ses collègues.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(2)

Aptitude-Treatment Interaction in Suggestopedia and Silent Way

Paper presented at the 1981 SALT Conference
Iowa State University, April 24-26, 1981

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Abstract

In this study a comparison is made between two recently developed approaches in foreign language teaching: Suggestopedia and the Silent Way. In many respects the former can be considered to be the opposite of the latter. In this experiment the dependent variables are the outcomes in language proficiency and affective behavior. French is taught in twelve 10-week courses of 40 hours each to adults in continuing education.

The research design is based on the hypothesis that learner characteristics such as cognitive styles have an impact on results, provided cognitive style and teaching approach are matched. Because the project is yet in progress, final results are not yet available.

Introduction

In a report on the last SALT Conference published in the Swedish review *The International Journal of Educational Technology and Language Learning Systems* , see Knibbeler (1980), I argued that the Suggestopedia movement needs to be analysed more critically and that this analysis requires that research projects be "presented and discussed in accordance with established scientific conventions". My intention is to submit to you a research project conducted by me at Nijmegen University (Netherlands), and I am convinced I shall gain great profit from your criticism. Because the project is still in progress, my contribution deals with its design rather than with its results.

1. Teaching Approaches

In educational research investigators usually apply the experiment-control model in which a new teaching approach is compared with the traditional approach. For instance, when Lozanov (1978) reports on his research, he relates the results of the suggestopedia classes to the result of the traditional classes. However, there are many reasons for modifying this paradigm in the sense that one new teaching approach should be compared with another new teaching approach. First, it is more complicated to determine what is meant by the traditional approach than to determine what is meant by the other new approach. Second, the so-called traditional approach often happens to be a teaching practice whose weaknesses have already been demonstrated by educational researchers. Because of these reasons it was decided to study Suggestopedia in foreign language teaching by comparing it with another new approach in foreign language teaching, the Silent Way.

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* A summary of this project has been published in the *SLANT Newsletter* , X/2, December 1980, 86-87, published by San Francisco State University.

In previous SALT Conferences I noticed that the Silent Way is hardly known to Suggestopedia researchers or practitioners. Therefore, I would like to explain briefly what it is all about. The Silent Way was developed by Dr. Caleb Gattegno, Director of the institute Educational Solutions in New York City. Gattegno is a mathematician, a psychologist and most of all an educational philosopher. He has published about 120 books - most of them on education - and a great number of articles. He elaborated new approaches to the teaching of mathematics, language arts and foreign languages. His educational philosophy can be summarised by these words: the Subordination of Teaching to Learning. It is based on the principle that self-discovery is the most effective way of learning and that understanding and following the learner in his learning process is the only effective way of teaching. Consequently, the fundamental characteristic of the foreign language teacher's behavior is her silence. As this sounds rather vague, let me describe the practical teaching procedures this theory leads to. In order to make it clear for an audience who is well acquainted with Suggestopedia, I shall emphasize those aspects in which Suggestopedia can be considered to be the opposite of the Silent Way.

1.1 Whereas Suggestopedia hypothesises that most information comes to us via subliminal stimuli and is processed by the paraconscious, the Silent Way claims that learning takes place only by awareness.

1.2 Whereas in Suggestopedia the students are supposed to be receptive one third of each lesson period, in the Silent Way the students have to be productive practically all the time and from the very beginning.

1.3 Whereas in Suggestopedia the teacher is supposed to prevent experiences of difficulty, in the Silent Way the teacher stimulates learning by trial-and-error.

1.4 Whereas in Suggestopedia the student's activity is restricted to transforming sentences or to re-acting dialogues which have been read aloud several times by the teacher, in the Silent Way the student has to discover linguistic units and to construct sentences he/she has never heard before.

1.5 Whereas the Suggestopedia teacher is authoritative and dominant, the Silent Way teacher is rather permissive and withdrawn.

1.6 When the student is working on problems, the Suggestopedia teacher gives direct verbal help, whereas the Silent Way teacher restricts herself to pinpointing the problem without presenting the solution.

1.7 Whereas in the Suggestopedia course comprehension of new language materal is facilitated by presenting simultaneously a translation of the text in the mother tongue, in the Silent Way course the teacher explains new lexical items and new grammatical structures only by means of rods, colors and gestures.

1.8 Whereas in the Suggestopedia course the language materials of the first lessons are made up of complete sentences, in the Silent Way course the only language materials presented up to the intermediate level are words which function as stimuli for sentences to be created by the students.

1.9 Whereas the classroom atmosphere in Suggestopedia is deliberately relaxing, in the Silent Way classroom tables and chairs are designed and arranged in a way conveying an impression of learners working hard on a particular task.

For a summary of these differences see Figure 1.

2. Problems

In this research project we attempted to answer 4 questions concerning, the two teaching approaches, two levels of entry proficiency, differences among six teachers, and learner characteristics.

2.1 Question 1

Are the effects produced by Suggestopedia significantly different from the effects produced by the Silent Way? By effects we mean results relating to both language skills and affective behavior. By language skills we mean listening and speaking proficiency. With regard to speaking we distinguish between correctness and fluency. With regard to affective behavior we distinguish among self-assessment, motivation and appreciation.

2.2 Question 2

Are the effects produced in the classes for beginners significantly different from the effects produced in the intermediate classes? These differences will be examined within the Suggestopedia group and within the Silent Way group. There are 3 Suggestopedia classes for beginners, 3 Suggestopedia classes for intermediate students, 3 Silent Way classes for beginners and 3 Silent Way classes for intermediate students. There are 54 subjects in the intermediate classes and 80 subjects in the beginning classes.

2.3 Question 3

Do the classes taught by different teachers produce significantly different outcomes?

There are 6 teachers, 3 of whom teach both a Silent Way class and a Suggestopedia class.

2.4 Question 4

Do the outcomes show interactions between learner characteristics and the teaching approaches?

This question deals with a more general problem in education, labeled Aptitude Treatment Interaction. Because this last problem is my first concern, I will develop it in more detail.

Aptitude Treatment Interaction (henceforth ATI) is a research model used in educational psychology in order to discover to what extent the interdependence of learner characteristics and teaching procedures produce effects on educational outcomes. As a matter of fact, it combines the method adopted in experimental psychology with the method adopted in correlational psychology. The idea of the ATI research paradigm was introduced in educational psychology by Lee Cronbach in his presidential address to the American Psychological Association in 1957. Twenty years later Lee Cronbach and Richard Snow (Stanford University) presented an exhaustive review of ATI research projects in *Aptitudes and Instructional Methods* . Although ATI research has not provided evidence for a strong interaction between the individual learner and his/her teaching environment, the authors feel that a well-considered ATI design can enhance our insight into the learning process under a given treatment. Of the hundreds of ATI projects they mention, only six deal with foreign language teaching.

If we apply the ATI model to our project, the main problem can be formulated in these terms: do different learner characteristics correlate with differences in outcomes within the Silent Way and within Suggestopedia respectively? The corollary of this question is: do learners under different treatments but with the same characteristics achieve varying outcomes which could be explained by specific features of the Silent Way and Suggestopedia? We emphasize that, although the aim of our instruction is language proficiency, aptitude in this ATI project has nothing to do with language aptitude as defined by Pimsleur (1964), Carroll (1973) and Neufeld (1979). In this project we adopt a broader definition of aptitude, i.e. "any characteristic of a person that forecasts his probability of success under a given treatment", quoted from Cronbach and Snow (1977: 6).

Learners happen to vary in many respects. It is impossible to control all these individual variables. It is the researcher's task to choose those learner characteristics which fit with the distinctive features of each instructional method. An analysis of Suggestopedia and the Silent Way led us to the decision to select two cognitive styles, namely field-independence/field-dependence and reflectivity/impulsivity. I shall explain our choice later on in section 5 (Hypotheses).

Let me finish this section and remind you that via this research project we want to answer four questions. The last question, however, is the most interesting and the most challenging one, because many research reports on Suggestopedia and on the Silent Way can account for but little variance in the results between individual learners. See for example, Prichard & Taylor (1979: 16-17).

3. Procedures

In this section I shall trace briefly the experiment set up to gather the data we need to answer the above questions. French is taught in 12 10-week courses of 40 hours each to adults in continuing education. The courses take place from January 1981 to June 1981: 12-15 students take part in each course. The teachers are trained before the courses and they meet weekly during the course period in order to discuss their experiences. For an introduction to the Silent Way, they participated in a seminar conducted by John and Susana Pint, Le Plessis-Robinson (France). The language material for the Suggestopedia course was developed by Mireille Maleville, a native speaker of French and one of the teachers. The content of the Suggestopedia course is being analysed by computer, which yields frequency lists of word forms occurring in the dialogues.

In order to avoid heterogeneous groups in the intermediate classes, students are selected on the basis of their scores on a multiple-choice completion test. The students enrolled for the beginners classes are supposed to be real beginners, yet adults sometimes pretend to be real beginners in spite of their having learned some French a long time ago. In order to control this variable, the beginners are subjected to an editing test. For the procedure of this format of overall proficiency test, which can be looked upon as an alternative to the cloze test, I refer to Bowen (1978) and Mullen (1980). Before and after the course a questionnaire on self-assessment and on motivation is submitted to the students. After the course they are also requested to fill in an appreciation questionnaire. After the course the students are subjected to a test of listening comprehension and speaking proficiency (hence posttest). Before the course the intermediate students take a test of listening comprehension and speaking proficiency (hence pretest). On the basis of previous analyses we made sure that the pretest and posttest for the intermediate students are really parallel tests, i.e. pretest and posttest have the same level of difficulty.

In order to guarantee that each teacher applies either the Silent Way or Suggestopedia authentically, we are developing observation instruments. These instruments are lesson reports, questionnaires and category forms to be filled in by the teachers, by non-participant observers and by participant observers, i.e. some students.

Moreover, we shall ask these informants to write impressionistic accounts. For more details on methodological issues in classroom observation I refer to Long (1980). The data gained by these instruments enable us to trace a picture of the behavior of the teachers. This can be important if we find differences in outcomes among the groups taught by different teachers using the same teaching approach, i.e. either the Silent Way or Suggestopedia.

4. *Instruments*

Since the measuring instruments used in educational research are of critical importance, I would like to review all our instruments in this section and make some remarks on the most important of them. In our research project, labeled ATI in Suggestopedia and Silent Way, we use three categories of measuring techniques: language proficiency tests, affective behavior tests and cognitive style tests.

4.1 The language proficiency tests are a listening comprehension test and a speaking test. Both the pretest and posttest of the listening tests have 25 multiple-choice items. Their difficulty level has been standardized on the basis of the results of 1107 subjects. Both the pretest and the posttest of the speaking test have 10 questions. The answers are tape recorded in a language laboratory. The results are evaluated by three judges, of whom two are native speakers of French. They use a four-point scale for scoring three aspects: completeness, correctness and fluency. Their objectivity and reliability will be measured by an inter-rater correlation.

4.2 The affective behavior tests are a self-assessment test, a motivation test and an appreciation test. The format of these 3 tests is a questionnaire using a five-point scale: 1 = the most negative answer and 5 = the most positive answer. The self-assessment test and the motivation test are taken before and after the course. Through the self-assessment test we want to establish whether the treatment, i.e. the teaching approach, either Suggestopedia or the Silent Way, affects the self-concept of the subjects. Therefore, the index we use is the difference between posttest scores and pretest scores. This test has 10 questions, 8 of them tapping the subject's perception of his/her learning capacities, 2 of them tapping his/her perception of mastery of French.

Example of the first category:

How do you feel, when learning new things? 1. It is very hard for me. 2. It is rather hard for me. 3. I don't know. 4. It is easy for me. 5. It is like a game for me.

Via the motivation test we want to establish whether the treatment affects the readiness to continue the study of French. Here, too, we calculate the difference between the posttest scores and the pretest scores. This test has 5 questions.

Example of the motivation test:

Suppose you'll soon have a long vacation and you can do what you want. Would you enroll in a French course? 1. No, I would do quite different things. 2. I have not made up my mind yet. 3. I would consider enrolling in a French course. 4. Yes, I would enroll in it. 5. Sure, I could not imagine a more splendid idea.

Through the appreciation test we want to find out to what extent the subjects liked or disliked the teaching approach. For each approach we selected 6 features.

Example of Silent Way appreciation:

The teacher often refuses to give the right answer and urges the students to attempt to find the solution themselves: 1. This is useless and irritating. 2. This is not useful, I think. 3. I have no opinion about it. 4.

This is useful. 5. This is very useful.
Example of Suggestopedia appreciation:

When the teacher reads the text, you are listening to music: what do you think of this combination? 1. Music hinders learning. 2. Music is not useful, I think. 3. I have no opinion about it. 4. Music is useful for learning. 5. Music is very useful for learning.

4.3 Since the main question of this research project concerns the aptitude component, the most important measuring instruments are those we mentioned in the last category, i.e. the cognitive style tests. Therefore, it is worthwhile to look at them more closely. I remind you that among other cognitive styles we selected (i) field-independence/field-dependence and (ii) reflectivity/impulsivity. However, I think I could better describe the instruments measuring these two cognitive styles in the section where I shall justify our decision to select these particular styles. This choice is based on our hypotheses derived from an analysis of the two teaching approaches.

5. *Hypotheses*

In section 2 (Problems) we mentioned the four questions we attempt to answer through this research project. With regard to the hypotheses I shall restrict myself to the last question, because I have only strong claims on the interdependence of the two teaching approaches and two cognitive styles, namely field-independence/field-dependence and reflectivity/impulsivity. Kogan (1971:244) gives the following definition of cognitive style:

> Cognitive styles can be most directly defined as individual variation in the modes of perceiving, remembering, and thinking, or as distinctive ways of apprehending, storing, transforming and utilizing information.

Messick (1976) distinguishes nine different cognitive styles, whereas Kogan (1971) describes ten of them. The most widely known and thoroughly researched cognitive styles are field-independence/field-dependence, reflectivity/impulsivity, levelling/sharpening and broad-category width/narrow-category width. The first two styles seem to be most relevant to our teaching goals and our teaching approaches. Witkin et al. (1962) describe field-independent persons as individuals who perceive their environment analytically. Field-independent subjects tend to experience items as discrete from their background, that is to say they are able to make a clear differentiation between details and the whole. On the other hand, field-dependent subjects have a global perception of their environment. They experience difficulty in distinguishing sub-elements of a configuration. In the literature on this cognitve style, the term analytical is also used as synonymous with field-independent, whereas global corresponds to field-dependent. Analysing the characteristics of field-dependent persons, Kogan (1971: 253) found a great deal of evidence that those individuals are more sensitive to social stimuli than are field-independent persons.

The instrument we use for measuring the field-independence/field-dependence dimension is the Embedded Figure Test (EFT) developed by Witkin and his associates. It consists of a colored set of complex geometric patterns in which simple figures are embedded. The subject's score is the amount of time taken to locate these simple figures within the complex patterns. See Fig. 2. As Andrulis and Bush (1977: 177) observe, the psychological construct measured by this test is based on perceptual accuracy which results from a tendency to analyze visual stimuli, requiring the subject to distinguish the simple figure from the embedded context.

The reflectivity/impulsivity dimension concerns the subject's evaluation of his/her own cognitive product, that is to say the degree to which a person tends to pause and reflect on the adequacy of his/her solution. Andrulis and Bush (1977: 176) observe that reflective subjects tend to spend a considerable amount of time in considering the adequacy of different alternatives in a situation with response uncertainty, i.e. a situation in which a difficult selection among multiple alternatives has to be made.

Among the various instruments to assess reflectivity/impulsivity, the Matching Familiar Figures Test (MFFT) is often employed as the basic index. The adult version of this instrument consists of a familiar figure (the standard stimulus) and eight variants, one of which is identical with the standard See Fig. 3. The standard and the eight similar figures are shown to the subject, who is asked to select the stimulus which is identical with the standard. The time needed for the correct answer (or latency) and the numbers of errors (incorrect choice) are the two dependent variables. A subject who produces a low score (long) on latency and a high score on the correctness of choice is considered to be reflective, and a subject with a high score (quick) on latency and a low score on correctness of choice is termed impulsive. For more details see Messer (1976).

With regard to the above two cognitive styles we generate two hypotheses.

5.1 Hypothesis I

Our first hypothesis reads:

Second-language learners classified as field-independent will produce better outcomes if assigned to the Silent Way than to Suggestopedia, and second-language learners classified as field-dependent will produce better outcomes if assigned to Suggestopedia than to the Silent Way. The Silent Way is a treatment with opportunities for a process of learning by discovery, whereas Suggestopedia can be labeled as an expository treatment. There are many reasons for placing the Silent Way within the framework of a discovery model. The student assumes a central role in the Silent Way procedure which requires total involvement in the learning process. He/she is asked to carry out successive experiments with the linguistic material offered in order to discover the new language himself/herself. Consequently, as Stevick (1980: 45) observes, the Silent Way teacher is potentially very useful, but her task is one of subordination to learning. Indeed, her task can be summarized as follows: (i) to supply the learner with the necessary raw material (new sounds and words), (ii) to guide the learner through his/her trial-and-error behavior up to the ultimate discovery of the language, and (iii) to offer every element not yet known as a challenge to the learner in the successive stages of the discovery process. The foregoing traits of the Silent Way justify its label as a discovery procedure.

On the contrary, some specific elements of Suggestopedia enable us to place this approach within an expository framework. The Suggestopedic material consists of bilingual texts. The dialogues are offered to the learner in a final form. The student does not have to construct or assemble sub-elements to get to the language in its ultimate shape; he/she is at once confronted with the language as a coherent system. Consequently, the learning task does not require much discovery on the part of the learner, although in one phase of the Suggestopedia lesson the student is supposed to practice with the offered material. Suggestopedia mainly involves the receptive skills of the learners. Moreover, if need be, the Suggestopedia teacher will provide grammatical explanations. She will provide an exposition of the rules and principles together with examples. This deductive rule-to-example sequence approach is another specific trait of the expository model.

The discovery features of the Silent Way on the one hand and the expository features of Suggestopedia on the other hand provide the basis for our first hypothesis. A learner assigned to a discovery treatment such as the Silent Way, is required to perform an assembling task. Field-independent individuals are good structurers and will perform better on this task. Because the offered material is broken up into its smallest constituent elements, they will feel more at ease and produce better outcomes. The field-dependent learner, on the other hand, tends to perceive the linguistic environment as an organized structure. He/she will rely on the totality of this offered material rather than on the constitutive elements. Henceforth, it can be assumed that the field-dependent person will feel at home and produce better results if assigned to an expository treatment. Moreover, field-dependent individuals seem to be more sensitive to social stimuli than field-independent persons. Suggestopedia is a teaching approach that allows the learner to gravitate towards agreeable social situations. This feature of Suggestopedia "de-suggests" undesirable social norms and stimulates the learner when reenacting the dialogues. We can illustrate our first hypothesis as in Fig. 4.

5.2 Hypothesis II

Our second hypothesis reads:

Second-language learners classified as reflective should produce a high score on correctness and a low score on fluency if assigned to the Silent Way, and second-language learners classified as impulsive should produce a high score on fluency and a low score on correctness if assigned to Suggestopedia. In the two other combinations, i.e. reflective subjects + Suggestopedia and impulsive subjects + Silent Way, we expect rather equal scores on correctness and fluency. In other words, we expect the difference between scores on fluency and on correctness to be less important than in the first combinations. In Fig. 5 we give a chart illustrating our second hypothesis.

Here are the arguments our second hypothesis is based on. One of the results in our research project is a score on oral proficiency. One can break up these scores into their main components in order to obtain two criteria, fluency and correctness. Reflective subjects assigned to the Silent Way tend to take every opportunity to pause and reflect on the adequacy of their proposed solution. Indeed, the Silent Way requires trial-and-error behavior from the learners and allows them a long delay in reporting their solution. Moreover, the solution proposed by the reflective learner is usually correct. On the other hand, this process of selection among alternatives is expected to slow down the reflective subject's fluency. On the contrary as we stated before, in the Suggestopedic lesson the learner is supposed to perform or reenact the dialogues without great care for correctness. Impulsive individuals will not wait and immediately report the first hypothesis that occurs to them. Therefore, they will show a tendency to perform the acting task required spontaneously and they will be minimally concerned about mistakes. Thus, in the Suggestopedia course, impulsive learners tend to enhance their fluency and to neglect their correctness.

6. *First Results*

As we have not yet administered the cognitive style tests, and the elementary courses have not yet been finished, we can only answer the questions on the teaching approaches and the teacher variable with respect to the intermediate courses.
Table 1 shows some details about our sample.

Table 1: Data on intermediate students

	Silent Way		Suggestopedia		Total	
Sex: Female	14		19		33	
Male	11		10		21	
	M	s.d.	M	s.d.	M	s.d.
Age:	40.	10.	38.	9.	39.	10.

6.1 Language Proficiency

6.1.1 Listening comprehension

In order to make sure that the pretest and the posttest are of the same level of difficulty, we eliminated one item from the pretest and one item from the posttest. Consequently, both pretest and posttest have 24 items and the average score of each of them is 71.16.

Table 2:

Data on the Intermediate Listening Comprehension Test (Range of scores: 0 - 24)

Reliability	*Pretest*		*Posttest*			
Corrected split-half	.86		.61			
KR - 20	.75		.59			
KR - 21	.73		.56			
	Mean	*s.d.*	*Mean*	*s.d.*	*t*	*p*
Silent Way (N = 25)	16.2	3.9	17.9	3.1	.56	> .20
Suggestopedia (N = 29)	16.9	4.3	18.1	3.1	.32	> .20
Teachers						
SW — MB (N = 6)	14.5	3.7	16.7	2.8		
MM (N = 12)	16.5	3.3	18.2	2.5		
TM (N = 7)	17.7	4.7	18.9	3.6		
Su — PC (N = 8)	16.8	4.6	18.5	3.1		
JH (N = 21)	17.0	4.0	17.7	3.2		

6.1.2 Speaking proficiency

Evaluation by judges, PC, PM and MW.

Table 3:

Pearson Correlation Coefficients among Judges on Speaking Test N = 64

Completeness			Correctness			Fluency		
	PM	MW		PM	MW		PM	MW
PC	.85	.80	PC	.68	.66	PC	.84	.65
PM		.74	PM		.58	PM		.68

Judge PC has been selected for evaluating posttest intermediates and posttest beginners.

Each of the 10 questions of the speaking test has been broken down into 2 or 3 communication units. Consequently, both pretest and posttest have 21 items. In order to make sure that the pretest and the posttest are of the same level of difficulty, we eliminated 2 easy items from the pretest and 2 hard items from the posttest. After these eliminations the pretest had an overall score of 9.99 and the posttest of 9.48.

Table 4:

Data on Intermediate Speaking Proficiency Test
(Range of scores = 19 - 76)

	Pretest		*Posttest*		t	p
	Mean	s.d.	Mean	s.d.		
Completeness						
Silent Way (N = 23)	42.7	10.4	47.9	11.0	2.2	.04
Suggestopedia (N = 29)	44.6	10.3	44.1	9.9	.3	.76
Correctness						
Silent Way (N = 23)	36.2	9.0	44.1	10.7	3.7	.01
Suggestopedia (N = 29)	34.3	12.7	41.6	7.3	3.0	.01
Fluency						
Silent Way (N = 23)	42.4	9.0	52.0	11.3	4.5	.01
Suggestopedia (N = 29)	40.6	12.9	48.3	8.4	3.3	.01

Table 4 shows that:

(i) after the course subjects assigned to Suggestopedia tend to operate more freely with respect to the task as required by the test than subjects assigned to the Silent Way (see the scores for completeness);

(ii) both the subjects assigned to Suggestopedia and the subjects assigned to the Silent Way score significantly better results in the posttest with respect to correctness and fluency;

(iii) in the field of progress in correctness there is no significant difference between the Silent Way and Suggestopedia; within the Suggestopedia group there is only less variance in correctness after the course;

(iv) subjects assigned to the Silent Way make more progress in fluency than subjects assigned to Suggestopedia; within the Suggestopedia group there is only less variance in fluency after the course.

Finding (iv) does not substantiate our hypothesis based on the analysis of the two teaching approaches.

6.3 Affective behavior

Table 5:

Self-assessment Ratings by Intermediate Students
(Range: 10 - 50)

<table>
<tr><th></th><th colspan="4">Silent Way (N = 25)</th><th colspan="4">Suggestopedia (N = 29)</th></tr>
<tr><td><i>Overall Means</i></td><td><i>Mean</i></td><td><i>S.D.</i></td><td>t</td><td>p</td><td><i>Mean</i></td><td><i>S.D.</i></td><td>t</td><td>p</td></tr>
<tr><td>Pretest</td><td>29.9</td><td>4.9</td><td rowspan="2">.82</td><td rowspan="2">.4</td><td>29.6</td><td>4.8</td><td rowspan="2">.12</td><td rowspan="2">.9</td></tr>
<tr><td>Posttest</td><td>30.[illegible]</td><td>4.8</td><td>29.7</td><td>5.7</td></tr>
<tr><td></td><td colspan="4"><i>Means</i></td><td colspan="4"><i>Means</i></td></tr>
<tr><td></td><td colspan="2">Pretest</td><td colspan="2">Posttest</td><td colspan="2">Pretest</td><td colspan="2">Posttest</td></tr>
<tr><td>Question</td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td>1</td><td colspan="2">3.4</td><td colspan="2">3.1</td><td colspan="2">3.4</td><td colspan="2">2.9</td></tr>
<tr><td>2</td><td colspan="2">3.1</td><td colspan="2">3.1</td><td colspan="2">2.6</td><td colspan="2">2.8</td></tr>
<tr><td>3</td><td colspan="2">2.6</td><td colspan="2">2.6</td><td colspan="2">2.6</td><td colspan="2">2.6</td></tr>
<tr><td>4</td><td colspan="2">3.2</td><td colspan="2">3.2</td><td colspan="2">3.2</td><td colspan="2">3.3</td></tr>
<tr><td>5</td><td colspan="2">2.8</td><td colspan="2">2.9</td><td colspan="2">2.5</td><td colspan="2">2.5</td></tr>
<tr><td>6</td><td colspan="2">3.5</td><td colspan="2">2.9</td><td colspan="2">3.5</td><td colspan="2">2.8</td></tr>
<tr><td>7</td><td colspan="2">2.8</td><td colspan="2">3.3</td><td colspan="2">2.7</td><td colspan="2">3.2</td></tr>
<tr><td>8</td><td colspan="2">3.3</td><td colspan="2">3.4</td><td colspan="2">3.3</td><td colspan="2">3.3</td></tr>
<tr><td>9</td><td colspan="2">2.8</td><td colspan="2">2.9</td><td colspan="2">2.9</td><td colspan="2">3.2</td></tr>
<tr><td>10</td><td colspan="2">2.6</td><td colspan="2">3.0</td><td colspan="2">2.6</td><td colspan="2">3.0</td></tr>
</table>

Question 6: If you compare your capacities with those of the other students, how do you assess yourself?
Question 7: How would you appreciate being given many turns?
Question 10: How do you evaluate your listening comprehension?

Table 6:

Motivation Ratings of Intermediate Students
(Range: 5 - 25)

Overall Means	Silent Way (N = 25)				Suggestopedia (N = 29)			
	Mean	*s.d.*	*t*	*p*	*Mean*	*s.d.*	*t*	*p*
Pretest	14.8	2.0	1.5	.13	15.1	2.4	1.4	.17
Posttest	15.5	2.4			15.8	2.8		

	Silent Way pretest	Silent Way posttest	Suggestopedia pretest	Suggestopedia posttest
Question	*Mean*	*Mean*	*Mean*	*Mean*
1	4.1	4.0	4.2	4.1
2	2.9	3.6	3.2	3.5
3	2.4	2.5	2.4	2.5
4	3.3	3.4	3.4	3.6
5	1.9	2.0	1.8	2.0

Question 2: Suppose the Tourist Office asks you to receive foreign visitors, would you like to have French-speaking people with you?

Table 7:

Appreciation Ratings of Silent Way by Intermediate Students (N= 25)
(Range: 1 - 5)

	Mean	*s.d.*
Overall score	3.5	1.1
Question		
1	3.4	[illegible]
2	3.9	1.0
3	4.0	1.0
4	2.5	1.0
5	3.6	1.0
6	3.6	1.4

Question 3: How do you like the teacher's offering only words and having you make sentences?
Question 4: How do you like the teacher's not giving you direct information whether your trial is right or wrong?

Table 8:

Appreciation Ratings by Suggestopedic Intermediate Students (N = 29)
(Range: 1 - 5)

	Mean	*s.d.*
Overall score	3.6	1.1
Question		
1	2.7	1.1
2	4.1	.6
3	3.4	1.1
4	3.6	1.2
5	4.2	0.8
6	3.6	1.0

Question 1: While the teacher reads the text, you are listening to music: what do you think of this combination?
Question 2: How do you like the games and drama techniques?
Question 5: How do you like the dialogues?

Tentative Conclusion

On the basis of the results now available, we can only conclude that the teaching approach is not a factor which influences the outcomes, neither in the field of language proficiency nor in the field of affective behavior with respect to intermediate students.

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Figure 1: Suggestopedia vs. Silent Way Comparisons

	Suggestopedia	Silent Way
1	paraconsciousness	awareness
2	receptive	productive
3	effortlessness	trial and error
4	transform	discover
5	authoritative	withdrawn
6	direct help	hints
7	translation	visual explication
8	complete sentences	minimal units
9	relaxing atmosphere	austere classroom

Figure 2: Figures from Witkin, EFT, Embedded Figures Test

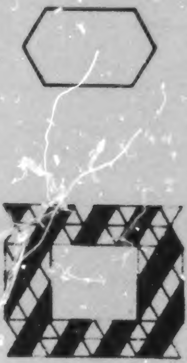

Figure 3: Figures from Kagan et al., MFFT, Matching Familiar Figures Test

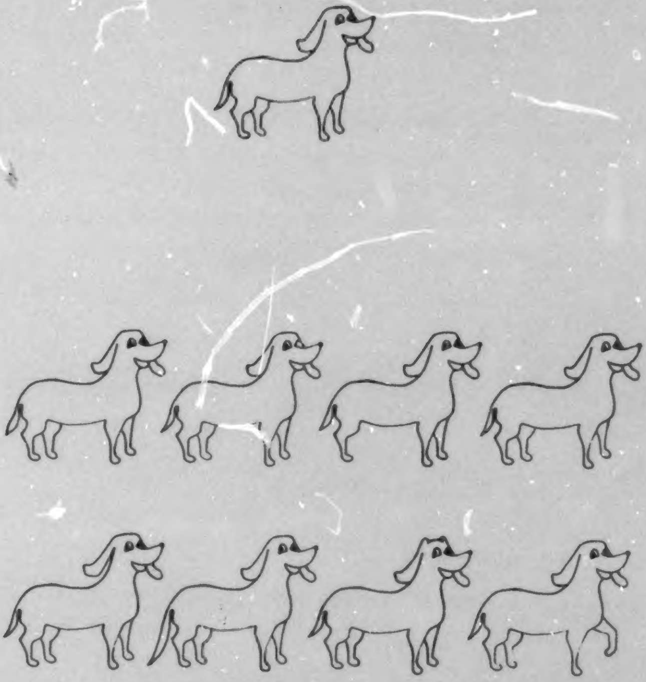

Figure 4: Hypothesis I

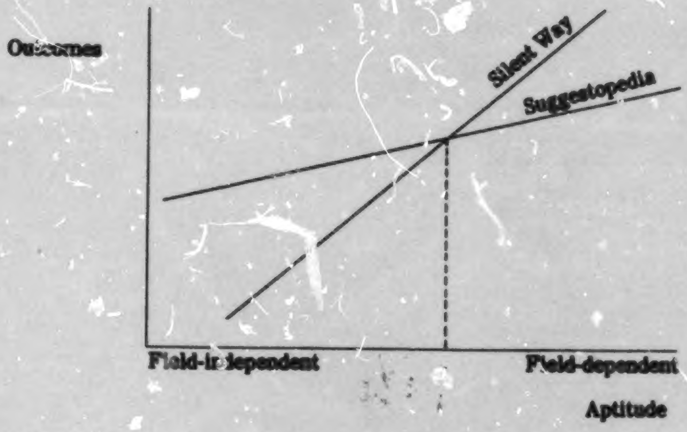

Figure 5: Hypothesis II

Subject + treatment	Correctness	Fluency
Reflective Subjects + Silent Way	↗ increase	↘ decrease
Reflective Subjects + Suggestopedia	→ no change	→ no change
Impulsive Subjects + Silent Way	→ no change	→ no change
Impulsive Subjects + Suggestopedia	↘ decrease	↗ increase

Une comparaison de deux méthodes d'avant-garde: la Suggestopédie et le "Silent Way" (la Voie du silence)

L'auteur étudie deux methodes bien différentes qui ont été elaborées dans les annécs récentes pour l'enseignement des langues étrangères: la Suggestopédie et le "Silent Way." Ces deux méthodes s'opposent à bien des égards. Dans cette expérience, les variables dépendantes sont la compétence linguistique et le comportement affectif. On enseigne le français dans douze cours de 10 semaines (à raison de 40 heures par semaine) aux adultes qui veulent poursuivre leurs études.
L'expérience du chercheur se base sur l'hypothèse que certaines caractéristiques de l'apprenant (par exemple, le style cognitif) ont une influence sur les résultats pourvu que le style cognitif et la méthode pédagogique se complètent. Parce que l'expérience n'est pas encore terminée, on ne peut pas en donner les résultats finaux.

Begabungs- und Handlungsinteraktion in Suggestopädie und der "Silent Way"

In dieser Studie werden zwei kürzlich entwickelte Fremdsprachenunterrichtsmethoden verglichen: Suggestopädie und die Silent Way. In vielen Hinsichten kann die ersterwähnte Methode für das Gegenteil der letzteren gehalten werden. In diesem Experiment sind die abhängigen Variabeln die Ergebnisse in Sprachfähigkeit und affektivem Verhalten. In einem Programm zur akademischen Weiterbildung von Erwachsenen wird die französische Sprache in 12 zehnwöchigen Kursen von je 40 Stunden Dauer unterrichtet. Die Grundlage des Forschungsentwurfs ist die Hypothese, daß Lernercharakteristiken wie kognitive Moden einen Einfluß auf die Ergebnisse haben, wenn die kognitive Mode und Lehrmethode einander entsprechen. Weil die Studie immer noch im Gange ist, sind die Endergebnisse noch nicht vorhanden.

Interacción Aptitud-Tratamiento en Suggestopedia y la Manera Silenciosa

En este estudio, se compara dos metodos últimamente desarrollados en la enseñanza de idiomas extranjeros: Suggestopedia y la Manera Silenciosa. En muchos aspectos, el uno se considera ser el contrario del otro. Los variables dependientes en este experimento se deben a la habilidad en idiomas y el comportamiento afectivo. Se enseña el francés en 12 cursos de 10 semanas, 40 horas cada uno; a adultos en los cursos de educación.
El diseño de investigación se basa en la hipótesis que las características del aprendiz, como los estilos cognoscitivos tienen un impacto sobre los resultados; si es que se emparejan los estilos cognoscitivos y los métodos de enseñanza.
Ya que el proyecto no está aún terminado, los resultados no están disponibles.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(2)

Experimental Application of the SALT Method to a Large Number of Students

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Abstract

The main part of this presentation is a report on the SALT experiments carried out at Tokai University during past two years with about 200 students taught an engineering subject, The Outlines of Information Processing. Two other experiences with large classes are discussed, language education, the teaching of English to Japanese-speaking people, and the other, the teaching of Japanese to an English-speaking audience.

I. Introduction

According to the suggestopedic study of Dr. Lozanov in Bulgaria, the most suitable number of students in one class is about twelve. If the class size becomes larger or smaller than this size, it may be that the achievement will deteriorate in some degree depending on the order of size discrepancy. Of course, an ideal suggestopedic class for special purpose such as language education in a very short period must fulfil this requirement. However, there is a number of cases when this ideal condition can not necessarily be satisfied for many reasons, e.g., shortage of class rooms or rareness of experienced teachers. Also, it was necessary to evaluate the attainable achievement in applying the SALT method to a large size class. These were the reasons why I had intended to begin these experiments. The first series of them was started in April 1979 and ended in January 1980, while the second series was carried out from April 1980 to January 1981. In carrying out a new trial, Gritton and Benitez-Bordon's paper (1976) was very helpful to me in that the SALT method was applied to the teaching of a physical science course and the suggestopedic lessons were used only one-fifth of the time during the semester. My work on our experiments is unique in several points, summarized in the following:

Firstly, the SALT method was applied to the college course "Information Processing Technology", which contains many special acronyms of technical terms in computer science.

Secondly, the number of students in a class room was unusally large, 180-200.

Thirdly, special time signals were used to synchronize breathing and, at the same time inducing alpha brain waves among most of the students by mixing 100 Hz sounds. Dr. Ohwaki, a psychiatry therapist, has found after ten years of his research that 100 Hz sine wave sounds can induce alpha brain waves.

Fourthly, a separate control group class had not been established for comparing with the experimental group. Instead, two sets of test questions were selected from the conventional lectures and SALT lessons during one semester so that students served as their own controls.

Fifthly, no text was used in carrying out the SALT procedures. On the contrary, sufficient audio-visual devices in the classroom were used for material presentation.

As to the language education for a large number of people, we have tried only two demonstrative experiments. So the achievement data are not quantitative. Some details will be given in section VI.

II. Class Room Conditions

The actual engineering lectures were given in the audio-visual educational room in the Takanawa college campus of Tokai University. The room is 9 meters wide and 18 meters long. The capacity of admissible students is usually 180, but it may be increased up to 200 by inserting auxiliary chairs. There is a screen of frosted glass just behind the black boards, the latter boards can be shifted away on both sides if the screen is to be used. The screen is used for the projection of movies, video tapes and display from a TV camera over the teacher's table. The video signals are sent to an adjoining small room where a GE LUPJ-5000 Xenon lamp projector is fixed and its output is thrown on to the screen. The teacher's table and the control panel are situated on the left side in front of the students. The teacher's scripts put on the table are picked up by the TV camera and projected on the screen. It is also possible to enlarge any part of the script so that it can be seen even by the students in the rear seats. The stereo player is also under the table. Two stereo speakers are suspended down at both sides at the front. Of course, their volume and the tone quality may be controlled from the teacher's table.

The teacher has to attach a small lapel microphone to his coat. Natural light comes from the south window, but it can be shut off by blackout curtains, which can also be controlled from the wall behind the teacher's table. Passage and entrance doors to the room are at the north side. The doors into the passage are shut out after the bell alarm which announces the beginning of the class. So the students arriving late are not allowed to enter the room.

III. Procedure

I have mostly followed the procedure of Gritton and Benitez-Bordon who had used SALT to teach eighth grade science in a public junior high school. I lectured on "The Outline of Information Processing" since April 1979 at the college of Tokai University, Takanawa, Tokyo. I have repeated twice this experiment in two years to 180 freshman students each time. No text was used for the lecture, so the students had to take notes, always attending the class. For my lectures, I had 24 weeks in 1979 and 26 weeks in 1980. The class time each week was 90 minutes. Each year I gave SALT lessons 4 times and the tests 2 times. As the total weeks a year were 24 to 26, the conventional lectures were given 4 to 6 times before each SALT class. As the available time for a SALT lesson was only 90 minutes, this time duration was divided into three main intervals, approximately 30 minutes for suggestion, mental and physical relaxation, 30 minutes for the active session and the remaining 30 minutes for the passive session. Of course, the last few minutes were spent with allegro music to conclude the passive session.

This suggestopedic program was slightly changed in the second year class to improve the visual memory. The modified point was to add a visual display in the first 30 minutes, without omitting the suggestive words in any degree. Pictures, photographs and curves, which had a close relation to the lectures were shown on the screen with background music such as "Spectrum Suite" which induces alpha brain waves. But no verbal explanation was given, except attracting attention to the important points in the graph by a pointer.

In the second interval or active session, I had to read about 200 sentences according to triple intonations, each having been inserted between breathing signals. These signals were specially prepared in our electronic laboratory and consisted of two kinds of tones, 100 Hz and 1 kHz, each lasting 2 seconds. The students were asked to exhale on 100 Hz tone, and to inhale on 1 kHz or 1000 Hz tones. Then followed a silent interval of 4 seconds. A short sentence was read within this silent interval. The students were also asked to look at the screen where the reading materials were shown progressively. All the note books of the students were gathered up at the teacher's side a week before SALT lessons and they were returned at the end of the passive sessions. So they could only look at the screen while the teacher was reading.

In the third interval or passive session, I reread the previous meterial with a background of baroque music. The students were asked to enjoy the melody of the concert by closing their eyes and relaxing all muscles. The illumination of the room was slightly reduced. Again, the time signals were running, but, this time, they were not audible to the students. They were just for myself and I heard them by earphone for controlling the speed of reading. The students breathed between my successive readings.

The above SALT procedures were repeated 4 times a year. The sentences read in the SALT sessions were carefully constructed to be readable in 4 seconds each and the contents were preferentially selected from the most essential parts of the preceding lectures. On the other hand, examinations were imposed twice a year. The tests have shown better results when some suggestive words were inserted between active and passive sessions.

IV. Examinations

In my opinion, the examination questions in a large size class correspond to the everyday exercises in an optimum size class. Therefore, we can only evaluate the students' achievement by choosing proper questions in the short times of examinations. There is a lucky benefit in a large size class in that we are able to know the SALT effect without getting a control class, if proper questions are assigned for the examinations. I assigned 3 groups of questions to the first year students and 2 groups to the second year students. The 2 groups corresponded to the two times SALT lessons were given during half a year. The remaining one group which was included in the first year examination were questions selected from the conventional lectures and whose contents had not appeared in the reading of SALT sentences. Thus, the remaining group of questions was considered to correspond to the control group test.

Let us show a simple example of questions asked in an examination:

What is the meaning of the acronym "DES"?

A correct answer to this question is:

Data Encription Standard.

In spite of the failures among most students of the first year class answering this question, those of the second year class were successful.

V. Results

I evaluated the achievemnt of the class as a whole and not of the respective students. The score distribution curves were plotted for each test so as to check the results of our experiment. Thus, 10 fundamental test curves and over 20 analytical test curves were plotted in past two years, but it might be troublesome to most of the readers to review all of these curves. So, I will try to show here just the general tendencies of these results.

As you might imagine, the score distribution curves of tests for conventional lectures show a maximum around the mean score as shown in the typical curves of Fig. 1. Actually, curve A is the result of a test on July 23, 1979 and curve B is that of January 30, 1980. There are two small humps in A, which correspond respectively to the inferior group of lower scores and the superior group of higher scores.

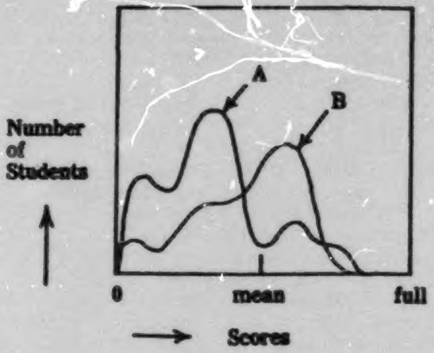

Fig. 1 Typical test score distribution curves due from conventional teaching.

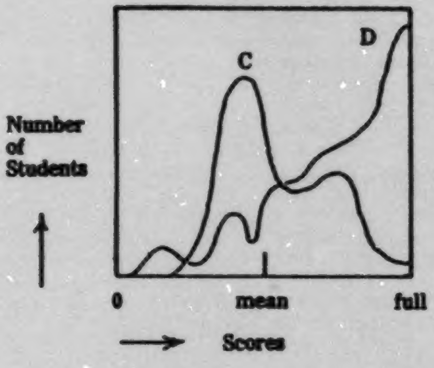

Fig. 2 Typical test score distribution curves showing the effect of SALT.

As the use of SALT progressed little by little, the score distribution curves generally improved, except in the last case when I had stated that questions on the examination were picked up from the SALT-reading sentences. The students were secretly writing the announced sentences or recording them on cassette tapes; as a natural result the true meaning of SALT has been lost. Even so, the inferior group had been markedly diminished, while the superior group had shown little change.

The general tendency of the SALT effect may be clear in the typical curves of Fig. 2. At first, the inferior group has disappeared and the mean score shifted a little higher as shown in the curve "C" in Fig. 2. This is the result of the test on July 23, 1979 due to the first SALT procedure. This, I suppose, is the result of the SALT technique which had not yet been learned fully. As the SALT teaching technique continued, the distribution curves shifted higher and higher. We got at last the curve D of July 23, 1980 due to the second SALT procedure. Most students in this test curve received perfect marks.

I have also tried to compare the effects of SALT between male and female students, as well as between city-bred and country-bred students. The results were very interesting. At least, the data of July 23, 1979 have shown that the female and country-bred students are more sensitive to SALT method than the male and city-bred students. In all four cases, or male, female, city-bred and country-bred students, shift of mean scores to higher side were almost the same. However, the decrease of inferior students and increase of superior students were much larger in female than in male students. On the other hand, the decrease of inferior students was more remarkable in city-bred students, while the increase of superior students was comparatively large in country-bred students. These tendencies may not always be true and eventually depend on many factors, such as environmental conditions, background music and contents of the course.

VI. Language Education

So far, I have reported only on technological education. Several years ago, I tried SALT twice on language classes, both of moderate size. Recently, I have had two experiences of suggestopedic demonstration for a large number of people as follows:

(1) English conversation

Sponsor: HISL, Ltd.
Place: Sankei Hall, Tokyo
Time: October 27, 1980 (2 hours 45 minutes on Monday night)
People: about 300

Program: 30 min. Slide projection 30 min. Active session (pronounced by an American) 30 min. Passive session (pronounced by an American) 15 min. Mutual conversations

(2) Japanese conversation

Sponsor: The Sixth HATJ-UH Conference on Japanese Linguistics and Language Teaching
Place: University of Hawaii at Manoa
Time: March 20, 1981 (1 hour 33 minutes on Friday night)
People: about 135

Program: 13 min. Slide projection (twice) 38 min. Active session 5 min. Passive session 10 min. Mutual conversations

These demonstrations were programmed so as to simulate the SALT method used in Tokai University during the 1980 academic year. Note that the duration of the active session in the Japanese lesson is considerably longer than that of passive session. The reason is the adoption of the newly devised Japanese learning system. The Japanese sentence structure is completely different in word order as compared to western languages. The author devised a special method called "Words Matrix System" to teach Japanese language to beginners who are unfamiliar with such langauge structure.

Let me show one example:

English (E): This is a statue of a dog.

Korewa: This E J
inu no: *of a dog* E J
zo: a statue E J
desu: is E J
Japanese(J): Korewa inu no zo desu.

Now, I have to read not only complete sentences, but also the words of different languages in pairs, reading them in the order of E-J first and J-E next. And finally, the Japanese full sentence must be recited. This is the reason why the required time for the active session was unusually long.

The visual display plays only an auxiliary role when the lesson of Japanese is limited to conversation, but it becomes an essential requirement if reading and writing are required, because the characters used for this language may total over several thousand.

Though I could not evaluate the results of both demonstrations reasonably, it seems at least that some people have been able to initiate conversations in unfamiliar languages.

VII. Some Considerations

Through two years of SALT experiments with a large number of students, I felt that they were incomplete on the one hand, but that many valuable clues were given on the other hand. Firstly, though we could not accelerate lecture speed by the SALT method, there is the possibility to give better memory to a large number of students. Secondly, it is comparatively easy to estimate the effects of various technics, e.g. the effect of musical programs, suggestive words or visual displays, because of the high reliability of the statistical data due to the large data base.

Acknowledgment

The author acknowledges with gratitude the help of several college professors and assistants of the Tokai University who have assisted him to carry out these SALT experiments during the last two years.

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Seki, H. Experimental application of SALT method to a large number of technological students. *Journal of the PS Institute of Japan*, 1979, *4*, 18-22.

Seki, H. Improvement of the large size suggestopedic classes. *Journal of the PS Institute of Japan*, 1980, *5*, 7-11.

Une application expérimentale de SALT aux cours qui comprennent de nombreux étudiants
L'auteur décrit les expériences du type SALT qu'il a faites à l'Université Tokai pendant les deux dernières années avec à peu près 200 étudiants qui suivaient un cours pour ingénieurs sur la cybernétique. En même temps, l'auteur parle de deux autres expériences avec des classes nombreuses mais cette fois-ci il s'agit de cours de langue(s): un cours de japonais pour anglophones et un cours d'anglais qui s'adressait aux Japonais.

Experimentelle Verwendung der SALT Methode auf eine große Studentenzahl.

Dieser Artikel handelt sich hauptsächlich um SALT Experimente, die in dem letzten zwei Jahren mit 200 Studenten des Ingenieurwesens durchgeführt wurden. Die Vorlesung hieß "The Outlines of Information Processing." Diskutiert werden auch zwei andere Experimente mit großen Klassen. Sprachunterricht für Japaner, die Englisch lernten, und für Englischsprechende, die Japanisch lernten.

Aplicación Experimental del Método SALT a Unos Estudiantes

La parte principal de esta presentación es un reportaje sobre los experimentos SALT llevados a cabo los últimos dos años en la Universidad de Tokai, con cerca de 200 estudiantes en una clase de Ingeniería. También se presentan otras dos experiencias en clase: la enseñanza a los japoneses, y la enseñanza de japonés a un público que solo hablaba el inglés.

J. of the Society for Accelerative Learning and Teaching, 1981,
6(2)

Biogenics and Suggestopedia

Phyllis Brownlee

Abstract

Although initially Biogenics and Suggestopedia may appear to be quite different from each other, they are essentially the same. The main differentiating factor is their separate goals - improved mental and physical health as opposed to accelerated learning.

History of the contributors to Biogenics

Biogenics is defined as a systematic self-regulation technique for the management of pain and stress diseases. In a recent article, Dr. C. Norman Shealy, the developer of the technique states that:

> The training process consists of deep relaxation, focus of attention, conscious balancing of sensations throughout the body, detachment and rebalancing of emotional stresses, goal-oriented programming to achieve the desired sensation (freedom from pain, or comfort), and guided spiritual awareness (Shealy, 1981:1).

The technique itself was developed by Dr. Shealy to be used as part of the treatment program for chronic pain patients being seen by him and his staff at The Pain and Health Rehabilitation Center in La Crosse, Wisconsin. Originally starting in 1971 with Fordyce's approach for behavior management, added onto in 1972 with biofeedback training and autogenic training, the program as it now stands was completed in 1974 with the addition of techniques and a series of mental self-regulation exercises adapted from Emil Coue (autosuggestion), Edmon Jacobson (progressive relaxation) and Roberto Assagioli (psychosynthesis) as well as techniques from yoga, gestalt and Jung.

In the extensive workbook, *Biogenics Heolth Maintainance* , Dr. Shealy (1976) discusses at length the history and development of Biogenics and has developed a guide for others who choose to begin teaching voluntary self-regulation. It is from this workbook, two current articles (Shealy, 1981; Shealy and Piech, 1981), personal conversations and taped lectures of Dr. Shealy that a portion of the next nine sections is derived.

Schultz (autogenic training)

J. H. Schultz was concerned about the passivity of the patient and his dependence on the therapist. As a result, between 1905 and 1928 he devised a technique of passive repetition of physiologically oriented statements. Patients assumed certain specific relaxed positions and concentrated in a goal-directed focused fashion in what Schultz called "passive concentration". The result was what is called Autogenic training, and it is used for controlling a variety of psychophysiologic symptoms. Schultz combined in a systematic lengthy training program statements referring to heaviness and warmth in the limbs, warm solar plexus, cool forehead, etc. People using this technique can develop muscle relaxation, localize warmth or coolness and bring about a higher pain threshold. Phrases such as "My arms and legs are heavy and warm" and "My forehead is cool" are from autogenic training.

Emil Coue (autosuggestion)

During a similar period of time, around 1922, Emil Coue developed a techniqu e called autosuggestion. He based his technique on the belief that the will always yields to the imagination and that by training our imaginations, not our will, we can bring about change. What we imagine we can or cannot do then happens. He also believed that man is what he thinks, consequently every one of our thoughts becomes a reality. Those individuals failing to respond to autosuggestion are either lacking in confidence, trying too hard or are not allowing their bodies to respond to their imagination. Suggestions are made without effort and his system is devised to help the individual replace gloomy thoughts with curative autosuggestions. Examples are "Every day in every way I am getting better and better" as well as body and disease specific statements. He suggests that just prior to going to sleep to introduce any desired idea and the unconscious mind will pick it up and act on it.

Edmund Jacobson (progressive relaxation)

A third contributor to Biogenics is Edmund Jacobson and his publication of his work in progressive relaxation in 1929. Contrary to the ideas and beliefs of Coue, Jacobson felt that teaching people to relax did not take imagination, will-power, self or auto-suggestion. He believed that by teaching people to recognize the sensation of muscle contractions, they would notice the opposite - relaxation. They would then come to realize that relaxing requires no effort wheareas contracting does. His approach involves a systematic contracting and letting go of various specific and minute muscle groups, one at a time, without the addition of either mental exercises or formal suggestions. Jacobson found that when the individual accomplished extreme muscular relaxation, thought processes and emotions diminish - the quieting of emotions being a natural outcome of deep muscular relaxation.

Roberto Assagioli (psychosynthesis)

An additional major contributor to the development of Biogenics is the work of Assagioli (1971) in psychosynthesis, dating back to 1923. Assagioli emphasized three major goals. He considers the development of the will to be the most crucial part of therapy. For him, will includes such things as goal-setting, deliberation, valuation and motivation, decision, affirmation, planning, and direction of the execution. The second major goal is the transmutation and sublimination of aggression and excessive libido. The third goal is the awakening and releasing of the "superconscious spiritual energy". Exercises dealing with the disidentification with the body, mind, emotions, desires and roles are used to guide the individual to seeing himself as a center of pure self-consciousness and will - as an observer, director and actor of one's life.

Biofeedback

Temperature biofeedback training is used during Biogenics sessions as it is both easy to teach and learn. Biofeedback serves as a "faith machine", as the "scientific" proof or documentation of the principles of body-mind regulation. Within a short period of time, patients are able to see proof that they can tell their bodies what to do and they'll respond. Realizing they can warm or cool fingertips, they soon recognize that with applying various mental exercises, they can gain control over other sensations in other areas of their bodies, eventually controlling pain in the distressed area.

Advantages of biofeedback are that it places on the patient the primary responsibility for getting well and taking charge. It helps create faith in our ability to effect change and perform tasks as requested. It does not do anything to us per se, but is an impartial grading system, a reinforcer.

Putting all of these approaches together, adapting them to his own specific needs and adding elements of yoga, gestalt and Jungian techniques, Dr. Shealy developed a technique which is of considerable benefit to patients with the worst types of pain. Biogenics can also be used by "normal" individuals who want to improve their life style in order to remain healthy and free from stress-related illnesses and even as a systematic path for individual spiritual awarnees and attunement. It is an organized series of exercises which integrate the positive, healthy aspects of will and imagination so that neither one dominates, each helping the other and both free of conflict. The mind can be used to create images of desired goals which can in turn be delegated to the subconscious areas of the mind to be acted upon.

Integration of Components

Although patients are exposed to a variety of exercises in an organized fashion, the more advanced exercises follow the pattern to be discussed next. A Biogenics exercise usually begins with some form of general body relaxation - taking deep breaths, saying to oneself "I am" on inhalation and "relaxed" on exhalation. Next, patients are instructed to feel sensations internally in various body areas, becoming aware of areas of tension as well as areas with no sensory feedback and then to "balance" the tense areas. "Balancing" is done by 1) talking to the areas and asking them to relax, 2) feeling pulsations in various areas, 3) imagine breathing in and out through those areas which feel "blocked", or 4) tensing and releasing unbalanced areas with the aim of feeling the contrast between tension and relaxation. Success at this level of relaxation is measured by feelings of relaxation throughout the body, feelings of floating or even a generalized lack of feeling, the production of alpha rhythm and mental alertness and awareness.

Following the balancing of body sensations is the balancing of emotions. This is done with the assistance of various gestalt-type exercises designed to encourage patients to release feelings of fear, anger, guilt, depression and anxiety. These feelings are then replaced with forgiveness, compassion, joy and love. Patients are also guided to examine various past emotional crises and problems from the position of the detached observer as well as recall pleasant events. They are then asked to compare the two and make a conscious decision to resolve any residual emotional conflict(s). This is done by choosing to assert oneself, divorcing the situations with joy, or by accepting the situation and forgiving the offender.

The next phase of a Biogenics exercise is to state internally one's own personal healing phrase which has been worded to create the positive, desired state of physical or mental health. This aspect of positive programming involves not only repeatedly saying one's phrase, but also seeing oneself accomplishing the goal. It is important to see oneself "as if" the goal is accomplished and doing all the activities one can now do in that new state happily and comfortably. This is followed with statements or suggestions of creating and experiencing feelings of comfort and freedom from pain. Finally, users are asked to explore their personal spiritual ideals and harmonize their goals with their spiritual values and ideals. Patients then return to their normal level of awareness and alertness, bringing back with them feelings of comfort as well as insights into their own body-min d-emotional-spiritual functioning.

It has been observed that during this state of body/mind harmony, this altered state of awareness during which the mind is quite alert and no undesirable body sensations are felt, that the repetition of verbal and visual programming will produce greater and greater freedom from pain. This comfort can and will be carried over into the normal states of activity for longer periods of time with the continued use of Biogenic exercises.

Biogenics as part of a treatment program

Biogenics training is an important and integral part of the patient program at the Center in La Crosse. The 12-day outpatient program involves a total of 88 hours of participation. This breaks down roughly into approximately two to four private counseling-treatment sessions per day plus four to five hours of biofeedback and self-regulation training (Biogenics) each day. The four to five hours instruction in Biogenics involves daily lectures, biofeedback training and simultaneously four or five separate exercises each lasting approximately 30 to 40 minutes. Exercises are conducted by instructors and are accompanied by a variety of taped musical selections which are designed to be relaxing, potent, emotional or mood altering. Many times the instructor will use a microphone and patients can choose to use earphones as well as close their eyes to help cut out distractions. Patients are encouraged to play a variety of tapes in the evening when not in either group or individual sessions. After leaving the program patients are encouraged to practice one of the basic relaxation-balancing techniques a minimum of three times a day at home plus repeating their own personalized healing phrase and seeing themselves accomplishing their goal.

In addition to Biogenics, patients are seen in individual therapy sessions by Dr. Shealy, a psychologist, a psychotherapist, a physician's assistant, a physical therapy assistant, a physical therapy consultant and a pastoral counselor. Additionally patients receive as needed various somatophysiologic techniques such as acupuncture, electrical stimulation, physical exercise, massage and ice as well as various out-patient surgical procedures if indicated. All patients are withdrawn from narcotics, sedatives and artifical analgesics other than aspirin or acetaminphen.

Results of research and follow-up studies

At the end of the 12-day program, 90% of the patients report 50% to 100% reduction of pain, 90% are off drugs and are physically more active as well as exhibiting improvement in mood. A followup study was done of 420 of the 2,000 out-patients treated between 1974 and 1981 who were treated primarily with Biogenics. Of that group of 420, 84% of them stated that they followed the recommended program at home (an average of 8 sessions per day for an average of 20 minutes each). At 6 months, 86% of those who continued practicing Biogenics showed improvement of 50% to 100% on their Pain Profile, while at 2 to 2 ½ years 70% of the patients remained improved.

In another study of 195 patients at 1-1 ½ years after treatment, of those wh o succeeded, 70% of them had continued to practice Biogenics whereas only 12% of those considered failures on the Pain Profile had continued to practice Biogenics. Of all patients who continued practicing Biogenics, 84% were successful.

Dr. Shealy concludes that the most important factor in long range management of the pain patient is Biogenics training and its continued use at home as advised.

Advantages of Biogenics over some other techniques are that it allows for balancing emotional conflicts. As patients practice the relaxation-balancing exercises, physiological or autonomic nervous system homeostasis occurs. With emotional balance comes some "Ah-ha's" or the gradual solving of individual problems. When the individuals are less tense, they can observe, recall, and re-experience past conflicts without the need for fear, anger, depression or guilt. With the additional use of counseling, the patients are asked to look within, to examine attitudes and emotions, to relive unpleasant experiences and resolve conflicts with love, forgiveness and compassion. By programming the opposite/desired emotional and physical state, the individuals can integrate their personality and relieve psychological and physiological distress without the need for deep analysis of the distress itself. This integration of both the will and imagination can be an effective therapeutic tool

A combination of positive thinking, faith, concentrating on the creation of the desired condition, experiencing new feelings as a means of convincing the subconscious (as opposed to just thinking about a feeling) combine to bring about lasting healing. Patients eventually, by going through this process and becoming more in tune with themselves and their goals will once again be able to be reinspired and find meaning in life.

Although study is in progress to determine why some patients fail to achieve success levels on the Pain Profile, usually they are individuals who have not yet developed insight into their own selves or developed the faith to continue practicing the exercises.

Characteristics of a Biogenics instructor

As with Suggestopedia, there are a number of characteristics which are essential to be an effective instructor. Dr. Shealy elaborates on this in the workbook previously referred to (Shealy , 1976). Instructors would be people with compassion and a sincere interest in helping people. They should exhibit understanding but not be patronizing or fall into the game of Poor Me with the patients. Both closeness and distance are essential. The instructor should be a healthy, enlightened, mature individual who can project the pattern of health and self-control which is being taught. One needs also to be in tune with his/her own spiritual self, as one of the functions of the instructor is to encourage and prepare patients to cultivate positive feelings and emotions and to get in contact with their own higher/ideal self. Because some of the exercises may evoke emotional release by some of the patients, an instructor should be experienced in accepting patient's experiencing unpleasantness but also be skilled in quickly guiding them to balancing their emotions by directing them to focus on the desired or opposite state or condition.

An instructor should be able to demonstrate mastery of control of skin temperature and personally experience each of the tapes and exercises shared with the patients. Because of the nature of the exercises and the availability of the subconscious of the patients it is absolutely essential that the instructor be aware of what he/she is communicating subtly through both verbal and nonverbal means of communication, including tone of voice. An instructor can transmit qualities of health, enlightenment, compassion and maturity as well as personal prejudices and unresolved personal emotional problems.

An instructor needs to exhibit control of the situation yet not be overbearing. Although the instructor is not expected to be "perfect", he/she should at least be further down the path of spiritual enlightenment, and exhibit more self-control and self-discipline than the patients.

(Dr. Shealy currently conducts groups for the preparation of Biogenics instructors at the Center in La Crosse.)

Personally, it is helpful for the instructor to be aware of subtle positive changes which are observable even in the smallest measure in the patients, and be able to convey to them confidence in the patients' continued ability to grow and change. Continuing to support patients in taking responsibility for their own health is important as it would be unhealthy and inappropriate for patients to feel that the instructor is responsible for their feeling better and for patients to feel they cannot relax with anyone else's voice. Presentations and instructors need to be believable.

Additional factors

In the author's study of suggestopedia and exposure to Biogenics at the Pain and Health Rehabilitation Center, a number of additional factors appear to be operating in the success of patients. One of these is positive expectancy. The Center and Dr. Shealy have a wide reputation for excellency which precedes the patient's arrival. The patient may have already decided before arriving that he/she is now ready to feel better and is ready and willing to invest the time, energy and money necessary to participate in the 12-day program.

The physical environment of the Center is not what one would initially expect of a holistic center for chronic pain patients, but one soon realizes the subtle effects of the environment on healing. It is located on a farm known for internationally acclaimed Appaloosa horses in the hilly region outside La Crosse, and the building itself looks like an overgrown log cabin and does not have the familiar antiseptic odor of most "clinics".

The walls inside the center remind the author of what has been described as the suggestopedic language classroom. The walls of the entryway, Biogenics room and individual offices are graced by numerous posters of a positive nature. For some patients it is like learning a foreign language - they have spent so much of their lives in pain physically and emotionally, and possibly even angry at themselves and others, that thinking positive and speaking positive statements about themselves and others is similar to learning a new language.

As in the classic suggestopedic classroom, patients recline in comfortable chairs around the perimeter of the Biogenics room and have access to earphones through which they can hear both the instructor and relaxing music.

Suggestions from peers as well as self-suggestions are important too as in the suggestopedic class. Observing change in other patients, whether it be in how they are moving, what they are saying or a smile, suggests that the system is working. Subtle changes within the individual, such as far more flexibility, feeling more comfort and less pain, feeling more positive about life are all convincing to the patient that he/she is indeed changing. Even experiencing and seeing one's temperature go up higher and more easily day by day as well as becoming relaxed more easily, may also help to convince the patient that something is happening.

Comparisons of Biogenics and Suggestopedia

In comparing the Biogenics sessions to the suggestopedic learning cycle, the sessions themselves are quite similar to the passive stage. Although the exercises do not in themselves offer an active stage, the lectures twice a day as well as some of the individual counseling sessions may well serve that function. Additionally, daily physical exercise involving stretching and limbering muscles and joints is also an integral part of the program as well as walks when weather permits.

It appears that in both suggestopedia and Biogenics we can realize that our mind's capacity is much greater than we heretofore suspected. Control over specific body functions and sensations, control and balancing of emotions, programming goals and actually experiencing physical and emotional change in Biogenics are not that much different from programming goals for learning and achieving at an accelerated rate. In one case suggestions are for improved mental and physical health and in the other for more accelerated learning, concentration and improved memory. The difference appears mainly to be in the goals and consequently the actual suggestions themselves!

Access to the subconscious, three barriers revisited

Both techniques employ decreased body and decreased mind activity as well as selective attention. The outcome of both is access to the phenomenal capacity of the subconscious usually not tapped for either improved health or accelerated learning. Looking further at selective attention or focused awareness, in Biogenics the mind is focused on various sensations (warmth, coolness, heaviness); on various emotions (joy, love, compassion); on attaining one's goal through saying one's own special healing phrase and imagining it happening; or through focusing on one's highest self, ideal self or spiritual ideals/values/goals. In suggestopedia, attention is focused on suggestions for accelerated learning, relaxation and on the learning material itself - whether it be "seeing" a particular scenario in a foreign land, writing spelling words on a "magic blackboard" in the mind, or writing math facts in the sand at an imagined beach.

Two examples stand out in attempting to explain what is going on in the process of access to the subconscious and the techniques for adding power to suggestions - one of them is from Van Pelt (Bryan, 1962:8), the other the image of a child's see-saw.

Van Pelt described very well the nature of hypnosis, and this author feels this applies to suggestions made in Biogenics and in a suggestopedic lesson. During our ordinary state of awareness, only a few units of mind power are affected by a particular suggestion as many scattered units of mind power go untouched by the specific suggestion (they may be distracted by the ticking of a clock, the car going by, etc.). During hypnosis, Biogenics, or the passive stage of suggestopedia, the units of mind power are concentrated (focused attention, conscious mind is off to one side and the subconscious is alert) and all units of mind power are available for and affected by the specific suggestions(s), thereby having a strong effect. No units are taking notice of anything else, allowing even the chronic pain patient to ignore pain. After hypnosis, each unit of mind power, although scattered, still carries with it a dose of the suggestions(s). The same appears to be happening in Biogenics and suggestopedia.

The other example is that of a child's see-saw - on one end is the conscious mind, which is the critical or censoring factor, and on the other is the subconscious which is in use when we're using our imagination or subjective methods of knowing. Biogenics and suggestopedia both use techniques to have more and clearer access to the subconscious where suggestions can take hold which may be contrary to the objective or conscious ways of knowing.

When we are responding to our external world through our five senses, being critical of what we're sensing and censoring input which does not fit previously known patterns, the conscious end of the see-saw is up. When we're using our imagination, daydreaming or fantasizing something, the other end, the subconscious is up or in the forefront. Many times during the day, we keep them pretty much in balance, vasillating between the two. What appears to be happening in Biogenics and suggestopedia is that we permit, allow, give permission to the conscious, critical, censoring mind to slip down and off to one side, knowing that if there is an emergency of any sort that it will be called upon and available. With the subconscious mind more available, we can then suggest a number of things to it that ordinarily the conscious mind might question or censor - such as "Learning is fun, learning is easy, I can learn more, remember better and longer than ever before," all of which are contrary to the anti-suggestive barriers. The same holds true in Biogenics. Suggestions such as "Every day, in every way I am getting better and better; I feel loving compassion for all other human beings; my mind is quiet and still; my body is comfortable and free from pain; I release all feelings of fear and anger, etc" are all contrary to the standard medical and psychological treatments most patients have had previous to coming to the Center and certainly contrary to what most are feeling and thinking upon first arriving. Most patients have been in pain for an average of 6 years prior to coming to t he Center, have tried various other techniques including additional surgeries, may be suspicious, resentful and/or angry with medical and psychological personnel. Feeling better and better every day is certainly not part of their most immediate experience.

In Biogenics as in suggestopedia and as well as in other related disciplines, the conscious mind will continue to pop up to check up on what's going on, as it is not usually accustomed to being permitted to step down and off to the side. Sometimes giving it a specific project, such as listening to music, counting breaths etc. will satisfy it until it is convinced that everything is okay and that it will be called on when necessary. With the problem learner, as in the remedial reading class of Jean Taylor, or in the classroom of children with learning disabilities, the conscious mind will probably be working overtime in censoring the suggestions for accelerated l earning and will need more time to feel comfortable letting it slip off to the side. When the subconscious mind is most available for suggestion, the patient/learner is actually allowing the teacher/instructor to function as the conscious mind for him/her for awhile.

In both techniques as the patients/students realize through proof (biofeedback, improved mental and physical health, more rapid learning, improved test scores), they will be even more willing to employ the techniques and suggestions.

As previously mentioned the three anti-suggestive barriers (logical, intuitive, and ethical) operate in Biogenics too. Many patients are faced with the realization that they no longer have to live with their chronic pain, as they were told by previous surgeons, physicians and/or counselors and that everything had been done that was possible. They may begin to start questioning those they had respected as authorities. Many may even disbelieve the effects of the treatment program initially as "If it's this easy, why didn't my doctor tell me about it?" "But my doctor said I would have to live with this pain." "It has to be harder than this.", etc.

The intiutive barrier may get in the way as the patients are uncovering feelings they didn't know were there and may even be fearful of what's hiding inside. They may also be afraid of permitting someone else to suggest positive feelings to them. These feelings can be dealt with in counseling sessions.

The third barrier, the ethical/moral, attracts such sayings as "It shouldn't be this easy, you're supposed to work hard at getting rid of pain." or "I was told I'd have to live with this."

By appealing to the subconscious and permitting the conscious mind to go off to the side, we can then circumvent or bypass the de-suggestive barriers and have access to the reserves of the mind. Accelerated learning as well as improved health seem to be located there, or at least the willingness to accept the suggestion that both are possible.

As Dr. Shealy states, healing comes from the inner wisdom of our own brains and that what we refer to as the life force is meant to be healthy. By balancing our thoughts, feelings and bodies we can achieve better health. Quite possibly, being in tune with our higher self or our spiritual ideals may be the same as reaching into the reserves of the mind where accelerated learning resides, according to this author.

In any case, when the subconscious is more available we can suggest to it more successfully that both accelerated learning as well as improved physical and mental health are possible!

Six methods for creating a positive suggestive atmosphere

As in the section on the three barriers, it appears in careful examination that the six methods mentioned as necessary in suggestopedia are also working at the Center, although in varying degrees.

Authority - the prestige of the instructor, source of the information, learning environment, knowledge of the subject, etc. Authority at the Center is furnished by the world reputation of Dr. Shealy for his work as a neurosurgeon, as an author, a speaker, in developing new and revolutionary surgical procedures and in forming the American Holistic Medical Association. Authority is also conveyed, although to a lesser degree, by the expertise and background of the rest of the staff.

Infantilization - behaving in a childlike fashion, recapturing the initial joy and eagerness of learning. Although role-playing, games, songs, etc. are not used in the Biogenics setting as in suggestopedia to bring about infantilization, patients generally play the role of the recipient as they are accustomed to that role with previous doctors. They are there to learn, have confidence in Dr. Shealy and the staff, have some new equipment to experiment with (biofeedback, electrical stimulators, earphones, etc.), and although skeptical at times are also curious about what will be and is happening. In some of the exercises, patients are asked to remember a time when they were so relaxed, they could relax no further or to remember a place that was relaxing for them. Additionally, the use of humor, telling of jokes, is encouraged and appreciated, as thinking about one's pain can be depressing.

Double-planeness - refers to the fact that we receive information and communicate on both the verbal and non-verbal levels. This would include numerous stimuli coming from the environment or from the instructor which basically go unnoticed but which affect our receptivity to learning. At the Center this can be seen to operate through the various posters and cartoons of a positive, humorous and provocative nature. The staff is enthusiastic, sincere and many exhibit dynamic personalities. As mentioned earlier, a Biogenics instructor needs to be especially aware of the overt as well as subtle messages imparted and be an example of excellent physical and mental health.

Intonation - Although intonation is not studied and used as systematically as in suggestopedia, it still does play an important part. The voice of the instructor should convey confidence, authority and calmness, and should be a relaxing voice to listen to. Different tones of voice are not used, as in the vertical and horizontal intonation swings of suggestopedia. The only similarity apparent is that over a 12-day period of time patients may be exposed to as many as six or seven different individuals conducting the exercises with consequently a variety of tones.

Rhythm - Although not used as systematically as in suggestopedia, rhythm too plays an important part. Although not the Largo section of various pieces, music has a part in the Biogenics exercises. Many of the health enhancing suggestions or statements are repeated numerous times in a soothing, rhythmic fashion (spaced repetition) and patients are even encouraged to hear themselves repeat the phrases internally. Lozanov himself found that in the psychotherapeutic setting, the rhythmical repetition of therapeutic suggestions "may bring about the hoped-for results more quickly than a single command or a solitary whispered suggestion." (Bancroft, 1976).

Concert pseudopassivity - refers to the concept that receptivity to suggestion and learning is enhanced by a passive state of mind. This method is employed extensively in Biogenics. Patients spend the majority of their time during an exercise deeply relaxed, decreasing both physical and mental activity, thereby being more susceptible to positive, health-producing suggestions. Patients appear to be asleep but are actually mentally very alert and aware. Their level of mental concentration is both enhanced and increased, as in suggestopedia.

Sharing

Each technique, whether the goal is accelerated learning or improved physical and mental health, has elements which can be shared as well as things which can be gained from the other.

In studying, observing and participating with both techniques, it is this author's opinion that each could benefit from the wisdom and successes of the other.

Biogenics could use some of the information on non-verbal communication and indirect verbal suggestions of Erickson (so well written about in Prichard and Taylor, 1980). It might also benefit from adding music similar to that used in suggestopedia, redesigning some of the exercises to be presented as more rhythmically spaced suggestions. Also the information on the six methods for creating a positive suggestive atmosphere could be more thoroughly explored. Even some specific suggestions interspersed prior to and during the use of Biogenics designed to counteract the de-suggestive barriers could be used to encourage and enhance the acceptance of suggestions for improved physical and mental health.

Suggestopedia could benefit from the systematic series of relaxation-balancing exercises used in Biogenics. Students with particular learning or emotional problems could benefit from the emotional balancing aspects of Biogenics. The special healing phrase could be translated to a special learning phrase and various other phrases of a positive nature could be inserted to counteract the anti-suggestive barrier and help to create the desired goal or setting of accelerated learning.

In conclusion and as stated in the beginning, it appears to this author that there is great similarity between Biogenics and suggestopedia. The main difference appears to be their separate goals. As a result their suggestions will differ.

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Le "Biogenics" et la Suggestopédie
A première vue, le "Biogenics" et la Suggestopédie semblent s'opposer, cependant, ces deux méthodes se ressemblent à bien des égards. En effet, le "Biogenics" et la Suggestopédie ne diffèrent que dans leurs buts: une amélioration de la santé physique et mentale en contraste avec une accélération de l'apprentissage.

Biogenik und Suggestopädie
Obwohl es erst so scheint, daß Diogenik und Suggestopädie sich sehr unterscheiden, sind sie im Wesentlichen doch ein und dasselbe. Der Hauptunterschied liegt in den verschiedenen Zielen: beim einen erhöhte geistige und körperliche Gesundheit und beim anderen beschleunigtes Lernen.

Biogenics y Suggestopedia

A pesar de que Biogenics y Suggestopedia parecen ser distintos, son realmente semejantes. El factor que los separa es la meta - La mejoría de la salud mental y física contra el aprendizaje acelerado.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(2)

Adapted Suggestology and Student Achievement

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Abstract

In the Fall, Spring, and Summer Sessions of 1975 a *Control Group* of pre-service elementary teachers taking the course "Methods and Materials in Elementary Science" received 11.3% *A* grades when taught traditionally. In 1976 an *Experimental Group* of pre-service elementary teachers on the same levels and taking the same course received 78% *A* grades when taught by Adapted Suggestology and relaxed with autogenics. This high achievement trend continues through 1980 with 76% *A* grades for the experimental years of 1976-80 inclusively.

I would like to begin today by asking how many of you have experimented with or are now experimenting with some form of Suggestology in a public school, college, or laboratory setting?

Introduction

A new method of relaxed learning and teaching (Ostrander & Schroeder, 1970) is entitled Suggestology and was the brainchild of a remarkable researcher, psychotherapist, and educator, Georgi Lozanov, of the University of Sofia, Bulgaria. The purpose of this study was to determine what, if any of his methods were adaptable to American college coursework in elementary science and to see the effects, if any, on student achievement.

The Lozanov Method, also called Suggestopaedia, deals with relaxed teaching and learning methods which enable a student to gain a high degree of mastery of a foreign language in a remarkably short period of time by the elimination of standard barriers to learning which hold back easy assimilation of knowledge. Learning is enhanced and retention rates are quite high, even after one or two years have passed. This method has spread to Canada, Russia, Austria, and other countries and is currently spreading throughout the U.S.

Because foreign language instruction and learning involves the learning of countless words and symbols which are initially unfamiliar to the student, and elementary science, or any science field for that matter, contains words and symbols which are also unfamiliar to the student, it was felt that the use of this adapted method might cause achievement gains for American college students.

Statement of the Problem

Can Suggestology be adapted to the teaching of pre-service Elementary K-6, Early Childhood N-K-3, and Special Education college students on the junior and senior levels causing a higher-than-average achievement gain for the students?

Definition of Terms

1. *Suggestology* . A method of teaching-learning which was started in Sofia, Bulgaria by Dr. Georgi Lozanov approximately 20 years ago. At his institute, foreign language students are first relaxed with specialized techniques incorporating yoga-type exercises, relax in environmentally-controlled classrooms with recliner chairs, receive new material at different levels of teacher intonation both with and without music background, and do role-playing sociodrama as reinforcement. Ninety plus percentage retention over a year to two years is normal, and the student learns at a remarkably accelerated rate.

2. *Adapted Suggestology* . A method of teaching-learning based on the Lozanov Method with adaptations necessitated by the peculiarities of American higher education classrooms and more rigid timetables than those found in Bulgaria. In this experimental approach in the United States, elementary science methodology was substituted for the traditional instruction in foreign languages as started by Lozanov.

3. *Autogenics* . A method of relaxing the body in a short period of time (under five minutes). First developed in Europe, the method involves the steps of deep breathing and gradual tightening of the body muscles from the feet to the head. The tightening (tensing) is then reversed by releasing the tension from the head to the feet with personal mind control.

4. *Levels of Intonation* . A method of oral delivery to the student of new material by the teacher or by use of the teacher's voice on tape recorder. The new material (concepts) can be, for example, shouted, spoken in a normal voice, whispered, etc. Variety is essential to the method.

5. *Concert pseudopassiveness* . A method using words and special music on a tape player.

Student Population and Groups

It was decided to use a Spring, Summer, and Fall enrollment of juniors and seniors taking the Elementary Science methods course (3hr., 3 credits) in 1975 as the Control Group (CG). The CG was composed of approximately 220 students who were taught by the traditional lecture-demonstration method in the Spring semester, Summer Session (6 weeks, 1 section), and Fall Semester. The Spring and Fall semesters each contained 4 sections, making a total CG of 9 sections of juniors and seniors. As a general policy, it was decided to present exactly the same information, methods, and concepts to the CG as would be presented to the Experimental Group.

The Experimental Group (EG) was composed of the Spring, Summer, and Fall enrollment of juniors and seniors taking the same science course in 1976. The EG was composed of approximately 220 students who were taught by Adapted Suggestology methods for one-half of each semester of summer session, with the remainder of the course time being devoted to the student teaching of sample science lessons to peers exactly as done in the CG. In summary, each of the groups had one-half of the course time devoted to traditional methods or Adapted Suggestology, and one-half of the course devoted to the teaching of a demonstration-experiment "discovery" type lessons to a group of role-playing peers.

Limitations of the Study

The Adapted Suggestology methods differed from Dr. Lozanov's "pure" Suggestology in the following ways:

1. Dr. Lozanov uses reclining chairs; at B.S.C. old, discarded, overstuffed student lounge chairs were used which had been rescued from a demolished dormitory. After using these chairs for 2 years, which necessitated the use of 18' x 24' masonite panels (lapboards) used for note-taking, my colleagues, who were also using the room, put pressure on the Dean and he indicated that I could no longer use the student lounge chairs. I did thank him for the extended period of time he gave me to conduct the initial portion of my research, and allowed standard chair-desk sets to be placed in the room. I am happy to report to you today that the use of these standard chairs, a blessing in disguise, allowed me to discover that reclining chairs or overstuffed chairs are *not* necessary for relaxation nor achievement.

2. Dr. Lozanov uses the teacher's voice on different intonational levels; at B.S.C. the adapted version was composed of a tape player playing a recording of the professor's voice.

3. Dr. Lozanov uses highly tested background music accompanying the intonational presentations; at B.S.C. tape recordings of Mozart, Haydn, and Lizst were used.

4. Dr. Lozanov uses classes with very small enrollments, usually 15; owing to necessity, the B.S.C. counterpart used 28-32 students in most of the sections and sessions.

5. Dr. Lozanov uses drama presentations on a small classroom stage to reinforce the student learning with sociodramas; this was not possible in the small, standard American college classroom.

6. Dr. Lozanov uses a special room environment; at B.S.C. some plastic flowers in a vase, a hanging plastic pot of real flowers, colorful pictures of physics, botany, and zoology scenes and inspirational quotations printed on cards were used to enliven the otherwise deadly atmosphere of the traditional college classroom.

7. Dr. Lozanov uses specialized relaxing methods for his students; at B.S.C. the Autogenics method was used for students to self-relax themselves prior to the introduction of the new materials.

8. Dr. Lozanov uses specific lengths of time for teaching his sessions; in the adapted method the students on Tuesday-Thursday sequences had 1 ½ hours each meeting; the Monday-Wednesday-Friday sequences had 50-minute periods each meeting - the summer sessions were each 1 ½ hours in length but met each day for 6 weeks. All meeting systems worked equally well.

Procedure

The method used with the students in the CG was to present material in a lecture format and do demonstrations for and with the students. Students then used the second half of the course to teach a sample science lesson to their peers in the college classroom.

The methods used with the students in the EG was to assign a homework assignment (reading in textbook) of several pages of new information. At the next meeting of the class, they were first relaxed with Autogenics, and then they were allowed to ask any questions on the new material. Following this they gave active attention to the material while it was played for them on a tape player (Levels of Intonation). Following this there was a period of questions and answers, and finally, the s tudents relaxed while they heard the music played and they were told not to pay any attention to the words on the tape which were spoken in time, or in concert, with the music. The students, too, taught sample lessons to their peers during the second half of the semester.

Both groups were given the same examinations, which featured objective-type test items in the first two tests and objective and essay items in the final exam.

Evaluation Methods

Students in both the EG and CG were graded by percentages, with the A grade having a range of 92-100%, the B grade having a range of 82-91% etc. Three tests were administered each semester/session. Each test was objective (machine corrected, true-false, multiple choice) but the final examination in each instance had some essay items added to the objective portion. The only way a student could gain percentage points, up to 5%, was to complete all course projects on time and in an acceptable manner. These additional project points were added to the final mean (average) before the letter grade was assigned. The projects included but were not limited to (1) the construction of a demonstration stand, (2) completion of a picture file categorized into 14 areas of science, and (3) the lesson planning and teaching of one "discovery-type" experiment of demonstration lesson in front of peers for 20-25 minutes.

Attendance was tightly controlled with one "personal" cut allowed for any reason, and 3% points deducted for each unexcused absence from class. Accident, illness, circumstances beyond a student's control were acceptable excuses for absence; if these reasons were not applicable, the percentage points were deducted from the final mean before letter grades were assigned.

The student could opt to simply accept his grade or might request a personal conference in which the examination items were gone over in detail with the instructor.

Analysis of Data

Final grades were computed for each student by averaging the 3 examination grades, adding the 5% points for projects, and deducting any percentages for unexcused cuts. For the Fall, Spring, and Summer classes in the CG the percentages of *A* grades earned was 6.5%, 18.5% (an exceptionally high performing student group), and 9.0%.

This finding was in sharp contrast to the percentage of *A* grades in the EG in the Fall, Spring, and Summer classes the following year with Adapted Suggestology. With the experimental procedures *A* grade percentages jumped to 80.0%, 82.4%, and 72.0%, indicating an earned final grade advantage of some significance for the EG.

The mean of the CG in 1975 was 11.3% *A* grades; the mean of the EG in 1976 was 78%, a significant increase in any *t* calculation.

The Spring semester of 1976 was the first semester in which the Adapted Suggestology method was used and the percentage of *A* grades was 82.4%. The Hawthorne Effect was considered to be evident here due to the newness of the program and word passing around the campus. When the Summer Session and Fall Semester showed achievements of 72% and 80% *A* grades respectively, it was felt that Adapted Suggestology was indeed , working.

I am happy to report that in 1977 the Spring, Summer, and Fall percentages of *A* grades were 84.6%, in 1978 the Spring, Summer, and Fall percentages of *A* grades were 77, 88, and 82, in 1979 the Spring, Summer, and Fall percentages of *A* grades were 80, 81, and 66. The last per cent, 66 is quite low, and when I tried to analyze the problem the method came up fine but a combination of Bangkok flu, bad weather, and monoucleosis ruined the high achievement levels previously experienced.

In summary, the CG (1 year) mean percentage of A grades was 11.3%; the mean for years 1976-1980 was 76% in the EG.

Results

Using the posttest-only procedure with random selection of the student population assumed by chance assignment by the course selection and computer assignment method found at most colleges (and with equivalency of junior-senior level status assumed, with prerequisite courses required) it was found that:

1. Problem: Suggestology as a teaching-learning method can be adapted to the teaching of junior- and senior-level college students in elementary science causing a higher-than-average achievement gain for the students.

2. Null Hypothesis: The Null Hypothesis which stated that there is no significant difference between the CG and EG in achievement was rejected.

Discussion

I would like to tell you about a limited sampling occurrence but a nevertheless excellent "food-for-thought" phenomenon which occurred during these last 6 years of experimental work. In 1978 a student came into the room to take the first test, and, upon seeing that the test was indeed scheduled for that day and period, immediately implored me to allow him to take the exam on another day. "I forgot that this was test day," he told me, "and I didn't study for the test." I, nevertheless, required him to take it, indicating that he had attended all of the Adapted Suggestology sessions and would do just fine. I swallowed hard here, hoping that I was right. He earned an A- on the test and both of us were well pleased. I forgot about it until this semester when another student, a girl, forgot that the test was during the scheduled period and asked to be allowed to take it at a later date. I then remembered what had happened to the young man a few years ago, and told her to go ahead and take the test. It turned out that she, too had attended all of the Adapted Suggestology sessions, and, happily, she earned an A+, the third highest grade in her section--with no studying!

Now you must realize that it is extremely difficult to obtain a sample population of students who have (1) not studied for test 1 and (2) have attended all of the Adapted Suggestology sessions! But this limited sampling does give one "food for thought" as I earlier indicated. Let it suffice to say--should we begin experimental work with the method of telling students *not to study at all* if they attended *all* Suggestology sessions? Do traditional study methods merely interfere with all we have been doing in Suggestology methods to date? As the king said in the "King and I" musical play--"Is a puzzlement."

I asked the female student to write me a letter the day after her grade was received, outlining all of her feelings as she took the test. The text of it is listed below.

Dear Dr. Vannan,

I'm writing to express my feelings and opinions about your Teaching of Science test that I recently took.

> Apparently, in the class prior to the scheduled day of the test, I misunderstood you. I thought you told us our test would be postponed to the following Tuesday, so therefore I didn't plan on studying for the test till the weekend. When I came to class on Thursday I was extremely surprised to find the test was Thursday, — that very same day. Feelings of terror came over me and also disappointment when I found out that I still had to take the test. You said suggestology would be put to its test here, but I personally didn't think it would help.
>
> I was extremely nervous taking the test. Many of the questions came easy to me, but there were a few that really gave me trouble and had me pondering over quite awhile.
>
> I tried my best to answer the questions and hoped for a high C. Well, to my surprise I did great - 96.4 - second highest in the class. I couldn't believe my eyes. I guess you were right, suggestology really helped me do super on the test, regardless of my nervousness and anxiety. Sincerely, Barbara Pappas

I have also noticed that several students each semester will tell me, on the day their grades are received, that they *heard me giving them the answers* to certain items as soon as they read them on the test. They felt that the answers were coming from the levels of intonation portion of the method, but they weren't sure. One over-40 student told me she heard me giving her the right answers but thought they were wrong. She got each of 6 items wrong on the test and swore never to disregard a "test message" in the future. She earned an A grade in the course.

Mind-Set or Favorable Predisposition

I feel that my students, before they enter the course in elementary science methods have a mind-set or predisposition which is favorable to the use of Adapted Suggestology as a teaching method. This, I believe, is caused by the positive messages sent out to new students from old students who have recently completed the course. A second factor is the use, in class, of the sampling of positive letters from past students who have completed the course and the reading of these in whole or part by the instructor. A third variable suggesting positive mind-set is the displaying of the same chart which you just saw (1975 CG - 1980 EG). All three variables appear to set the new students' minds at ease and remove some of the anxiety of attending the course. A fourth variable undoubtedly involves the class bulletin board display in the hallway just outside of the classroom as well as the Science Clothes Line (a string holding student work on display) next to the bulletin board. All students and faculty passing through the halls see the two displays, will stop many times, and sometimes give comments to colleagues or fellow students.

Female Avoidance Conditioning - Lower Means

A second major variable deals with the female in our society; she is conditioned away from science since birth by the presents she receives. She receives the doll, the doll house, the electric stove and electric iron and ironing board. The boy receives the electric train, the race car track, the Gilbert Erector Set. This, in my opinion, is definitely a factor in the real fear of the female for taking a scientific course and is therefore a

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factor in the lower mean number of *A* grades awarded in elementary science methods, a course historically taken by predominantly female students preparing for elementary school teaching careers.

Conclusions and Recommendations

Teaching college juniors and seniors elementary science methods by means of the adapted methodology of the European technique of Suggestology can result in higher achievement gradewise in addition to relaxing the students with autogenics and nonconventional procedures. The findings indicate that achievement in the *A* range is enhanced but further study and experimentation is necessary, especially in the area of long-term retention of basic concepts. In addition, a flexible schedule might be developed and used, such as a three-hour instructional period broken by one five-minute break, to see if this high concentration of teaching-learning can be adequately handled by American students in undergraduate level work.

Teachers might begin to reexamine their teaching methods with a view toward relaxing the students with a short exercise at the beginning of the period, using active attention to make sure that the student sees the new information in print and attends to it, and using music to relax the student while the same information is presented as background.

References

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L'impact d'une adaptation de la Suggestologie sur les résultats scolaires

En 1975, pendant les semestres d'automne, de printemps et d'été, dans un groupe de contrôle qui comprenait de futurs enseignants, 11,3 % des membres de ce groupe ont reçu un A à la fin du cours. Dans l'enseignement de ce cours sur les méthodes et les matériaux dans les sciences à l'école primaire, on a employé une méthode traditionnelle. En 1976, dans un groupe expérimental de futurs enseignants du même niveau, 78% des membres du groupe ont reçu un A comme note finale. Dans l'enseignement de ce cours, on a employé une méthode qu'on pourrait appeler la Suggestologie appliquée; on a aussi utilisé des techniques de relaxation adaptées du training autogène. De 1976 à 1980, environ 76% des membres du groupe expérimental ont reçu un A à la fin du cours.

Adaptierte Suggestopädie und Studentenleistung

Im Herbst-, Frühling- und Sommersemester 1975 bekam die Kontrollgruppe von noch nicht absolvierten Volkschullehrern im Kurs "Methods and Materials in Elementary Science" 11,3% A Zensuren mit einer traditionellen Lehrmethode. Im Jahre 1976 bekam die Versuchsgruppe von noch nicht absolvierten Volkschullehrern auf derselben Stufe und im selben Kurs 78% A Zensuren, wenn sie mit adaptierter Suggestologie unterrichtet und mit Autogenik entspannt wurden. Diese hohe Leistungstendenz führt bis einschliesslich 1980 mit 76% A Zensuren für die Versuchsjahre 1976-80 fort.

Suggestology Adaptada y Logros de los Estudiantes

En las sesiones del otoño, la primavera y el verano de 1975, unos maestros de primaria en un grupo controlado tomaron el curso "Métodos y Materiales en la Escuela Primaria", que se enseñó de manera tradicional. Ellos recibieron la nota A 11.3%. En 1976, otro grupo experimental de maestros de primaria, que tomó el mismo curso sacaron la nota A 78% dspues de los ejercicios de relajamiento con Suggestology Adaptada. Este porcentaje tan alto sigue para el año 1980. En total, habían 76% con nota A en los años experimentales (1976-1980).

J. of the Society for Accelerative Learning and Teaching, 1981, 6(2)

Adapting Suggestopedia/Sophrology to the Traditional Foreign-Language Classroom

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Abstract

In my French classes for beginners and false beginners conducted at Scarborough College, University of Toronto in 1979 and 1980, essential memory-training elements of Suggestopedia and Sophrology were utilized and, in particular, the soothing teacher's voice and the relaxation session for unconscious assimilation of the lesson material. Those students who achieved the best results in both written and oral work were those who 1) relaxed the best (which relaxation improved memorization of vocabulary and lesson texts) and 2) had good training in English grammar (which meant they could do well in the required grammatical exercises on written tests and and examinations). In the author's opinion, suggestopedic/sophrological techniques definitely improve the class atmosphere and student motivation and performance even when these techniques are limited to (or by) the traditional foreign-language classroom.

In an article entitled, "Sophrology and Suggestology/Suggestopedia: The Same System with a Different Name," (Bancroft, 1979) I discussed the similarities between Lozanov's Suggestology/Suggestopedia and Caycedo's Sophrology. Common theoretical elements include: authority of the teacher and prestige of the institution; infantilization or confidence and receptivity of the student; a positive environment; intonation--with particular regard to the quality of the teacher's voice; rhythm--especially rhythmic presentation of material; pseudo-passivity or a state of relaxed alertness in the students.

As developed by Aleko Novakov at the Institute of Suggestology, the original suggestopedic language class featured a relaxation session for unconscious assimilation of the lesson material (Bancroft, 1976). This session was divided into two parts: active and passive, with each part comprising twenty minutes, the ideal meditation period in yoga. During the "active" part, the teacher presented the appropriate foreign-language words or phrases with three different yogic intonations--declarative, whisper, loud command--while the students looked at the dialogue on the printed page and repeated to themselves (using inner speech) the difficult foreign words and phrases. During the "passive" part, the teacher read the language dialogue in a soft, persuasive voice over a background of baroque slow movements while the students, with eyes closed, meditated on the text. In the two parts of the session, the material was presented rhythmically on an eight-second cycle: two seconds--translation; four seconds--foreign language phrase; two seconds--pause. The students were trained to breathe rhythmically in accordance with the teacher's voice and/or the baroque slow movements.

While Suggestopedia is ideally suited to rote memorization of basic factual materials and is what one might term "teacher-directed," the Sophrology memory training system is designed to improve the memory in a global sense and is what one might call "inner-directed." Both the Sophrology memory training system and the Suggestopedic session, however, are based on raja yoga and/or on Japanese Zen and promote memorization or develop memory in two levels of consciousness: a state of relaxed alertness and a deeper level, close to sleep. Both systems favor unconscious assimilation of material.

The Sophrology memory training system is based on EFARP--evocation, fixation, association, repetition, presentation. For training the memory, important "body elements" are: abdominal respiration and coordination of breathing with thought or image, proper cerebral circulation, correct posture(s). A standing posture is used for relaxation exercises; two seated postures are used for memory training. An inclined seated posture, with eyes closed, corresponds to the passive session in Suggestopedia and is used for evocation, fixation and association. A modified Zen posture, with back straight up and eyes open, knees bent and feet under the chair, is used for repetition and/or organization and corresponds to the active session in Suggestopedia. In Sophrology, in contrast to Suggestopedia, one moves from a deeper level of consciousness to a state of relaxed alertness.

In a French class for beginners and "false beginners," conducted at Scarborough College, University of Toronto, in the fall term of 1979, it was decided to use those elements of Suggestopedia and/or Sophrology that could be considered essential to memory training and relaxation. The following elements were borrowed from Sophrology: abdominal respiration; relaxation of the neck muscles to aid cerebral circulation; correct (i.e., upright) posture while seated; special soothing voice of the teacher; physical and mental relaxation, especially the progressive relaxation exercise; visualization exercises (including, as in SALT "early pleasant learning recall," the visualization of an ideal learning scene in childhood). The following borrowings were made from Suggestopedia and adapted to a "conventional" (i.e., non-suggestopedic) textbook: rhythmic breathing and the relaxation session for unconscious assimilation of the lesson material, with a "dramatic" reading replacing the three yogic intonations of the active part and one or more baroque slow movements replacing the original three-part concert. For home use, in addition to a relaxation tape, students had access to tapes of the vocabulary items for each lesson, recorded over a background of baroque slow movements by a native speaker and colleague, Francoise Mugnier, in the original suggestopedic rhythm of 2:4:2 (i.e., two seconds--English translation; four seconds--French word group; two seconds--pause). Ideally, the lesson passages should also have been recorded on tape over a background of baroque slow movements and by a native speaker.

The format of the class involved a doubling of the regular number of class hours for one semester. Students met two hours a day, four days a week, for a total of thirteen weeks. (The normal pattern would have been one hour a day, four days a week for twenty-six weeks). Although there were variations in classroom procedure to accommodate such items as the showing of French slides and the playing of French records--not to mention the writing of in-class tests--the normal class comprised one hour of questions (and/or elaborations) on the text, plus grammar and exercises (including phonetics) and one hour during which the new lesson was presented (with questions and initial elaborations on the text). The textbook used was *Beginning French: A Cultural Approach* by William S. Hendrix and Walter Meiden (Houghton Mifflin) and its choice was dictated in part, by the fact that I had used an earlier edition of this text with considerable success in the early 1960's and wanted to make some diagnostic comparisons. While Suggestopedia is much better suited to a beginning course in which the aim is the acquisition of aural/oral skills, the system has been combined with grammar and translation in the Soviet Union and in East Germany (Kitaigorodskaya, 1978).

In the presentation of the new material during the second class-hour, the following pattern was used:

1) The text was repeated, sentence by sentence or word group by word group by the students individually and/or in chorus, in imitation of the teacher's voice and accent. Where necessary, grammatical explanations and/or translations were provided, especially in later lessons. During the initial lessons, however, few, if any, grammatical explanations were provided while the text was being "declaimed" and no translations were given. At the beginning of the course, the students repeated the words and sentences of the French text with their books closed. Needless to say, short texts or dialogues are much easier to handle in this kind of presentation than lengthy, narrative passages; however, for the more advanced lessons, separate dialogues can be composed on the theme(s) of a given narrative text.

2) The teacher read the lesson text in a "dramatic" way, i.e., using as many voice levels as possible; no precise rhythmic pattern was followed. During this first formal reading, the students were asked to watch their texts attentively and to use inner speech or silent repetition throughout.

3) The teacher read the lesson text a second time, but now in a soft, soothing voice over a background of one or more baroque slow movements. 4). (According to yoga experts, the voice can be achieved by breathing slowly and rhythmically and by putting oneself, through autosuggestion, into a deep state of relaxation). No precise rhythmic pattern was used during this concert session; the reading constituted a kind of recitative over the music, with pauses between sentences and/or word groups and a coordination of these pauses with the end of a musical phrase. Before the second reading began, students were asked to relax, close their eyes, breathe deeply and from the abdomen, sit in an upright posture and listen to the music. During the first two weeks of the course, some ten to fifteen minutes of each two-hour class was devoted to relaxation and a consultant, Eli Bay, was brought in to conduct extra hours of

relaxation training outside the regular class times.

In addition to using such pieces as the Largo from Handel's *Xerxes* , the Air and Andante from *The Water Music Suite* and the Air from Bach's *Suite No. 3 in D Major* , slow movements (usually marked *largo, larghetto, andante, adagio*) may be excerpted from the following: *Bach Brandenburg Concerti No. 1, No. 5, No. 6* ; Bach *Violin Concerto in E Major* ; Corelli *Concerti Grossi Op. 6* ; Corelli *Trio Sonatas Op. 4* ; Handel *Concerti Grossi Op. 6, No. 7, No. 9, No. 12* ; Telemann *Concerto in G Major for Viola and Strings* ; Telemann *Concerto in F Major for Three Violins and Strings* ; Vivaldi's *The Trial of Harmony and Invention, Op. 8* ; Vivaldi *Violin Concerti for Two Violins and Orchestra in D Minor, C Minor, G Minor and D Major* ; Vivaldi *Concerto in D Major for Guitar and Strings* .

Insofar as the results were concerned, of the five male students and seven female students who took the course, all passed; the grade distribution was as follows: two A's; five B's; three C's; two D's. It was found, at the beginning of the course, that those students who relaxed the best and/or who had had previous training in relaxation, made good progress in oral and written work--in the memorization of vocabulary and in the global memorization of lesson texts. These two findings were confirmed by performance on in-class tests which involved a vocabulary section (translation of English words into French) as well as an essay or question section based on the lesson topics. (Other questions regularly included on written tests were translation of sentences from English into French and grammatical exercises of the type "filling in the blanks"). On later written tests, some students of Chinese or Vietnamese origin achieved near-total recall of even difficult passages on the Second World War written in the *passe simple* .

Those students with no background in English grammar (a common occurrence in North America nowadays) made little real progress in written French once the half-way point in the course was reached and new verb tenses started being introduced with each new lesson or two. This fact was confirmed in private conversations with the students concerned. (It was felt that a question of the type "Did you find yourself becoming more confused as more grammar was introduced?" would have been inappropriate on a questionnaire). One student, a fourth-year English major, taking French because he was interested in obtaining a job with Air Canada and who ended up getting a "C" in the course, asked me at one stage what a preposition was. The pluperfect, which is traditionally one of the easier verb tenses to master in a foreign language such as French, created all sorts of problems as most students had stopped using it in English and could not distinguish, for example, between "has gone" and "had gone." Those students with little or no previous training in English grammar tended to become confused as the grammatical exercises in French became increasingly complicated. This phenomenon had not occurred in the early 1960's when I used an earlier edition of the same textbook to teach a beginning course in French; students at that time were required to take English grammar and/or

Latin in school.

One student in the class manifested an interesting, if alarming, right/left brain split in that, even on written tests, she achieved near-perfect recall of texts, even difficult ones, while making up to fifty percent errors on grammatical exercises of the filling-in-the-blanks type. For example, in an essay on fashion in Paris (this essay was part of an in-class test), she reproduced, with occasional but correct modifications, entire paragraphs from the original text, "La mode," including such sentences as the following: "Un chapeau ou une robe qui vient de Paris a un chic qui ne se trouve nulle part ailleurs." (The original sentence has as its subject: "Une robe, un manteau ou un chapeau"). While her essay showed the correct use of the negative in French (e.g., "ne . . . nulle part"), she was unable to find the correct responses in filling-in- the-blanks exercises on negation in French. (For example, when asked to turn sentences into the negative, she wrote "J'ai n'ecrit jamais quelque chose" instead of correctly replacing *quelque chose* by *rien* in the sentence "J'ai ecrit quelque chose" and writing "Je n'ai rien ecrit").

Those students who achieved the best results (i.e., an A or a B in the course in both written and oral work) were those who 1) relaxed the best (which no doubt helped the functioning of the right hemisphere of the brain and improved or promoted recall of vocabulary and language texts) and 2) had good training in English grammar which meant that they could do the "left-brain" grammatical exercises (such as translation) which, according to university practice, were a required part of the written class tests and final examination.

In the fall term of 1980, the same experiment was repeated but this time with a different group of students--ten in number— all but one of whom had performed at least reasonably well on a University of Toronto placement test which had not been administered the previous year. As Eli Bay was not available for consultation, the relaxation training was summary--consisting more of theoretical explanations than practice. The teacher's voice, however, had improved and the combination of the baroque music and a soft, soothing voice appeared to produce the desired effect during the seance (Guilhot et al, 1979). Both Dr. Lozanov (1978) and such teachers as Jean Cureau of the Lycee Voltaire in Paris claim that physical relaxation exercises might not, in fact, be necessary with "normal" students. Class members were, however, given relaxation tapes (as well as vocabulary tapes) for home use.

Since, with one exception, all the students had performed well (or reasonably well) on the appropriate placement test, grammar proved to be less of a problem than it had in 1979. To my surprise, most of the students welcomed the grammatical explanations; some said they had dropped French in high school because they had never known the meaning of what they were saying; others complained about the lack of training in English grammar in the schools. With the exception of one D and one C+, all the students received an A or a B in the course.

While a number of students achieved good recall of dialogue or narrative material in written and/or in oral work, one young man proved to be exceptional in this regard. (He also proved to be excellent at such analytical tasks as translation). His relaxed, easy-going manner, pertinent questions and near-perfect recall of language materials quite naturally attracted the attention of the other students. During one of the class breaks, it emerged (as a result of my questioning) that he was of Indian origin and had performed, under his mother's direction, such yoga exercises as meditation, deep, rhythmic breathing and concentration on a single point from infancy to the age of ten. (According to Dr. Paul Chauchard (1974), relaxation and proper breathing are essential to the development of a good memory). After the age of ten, by now living in a purely Canadian milieu, the Indian student dropped the yoga training because of negative comments from other children. The early training must have remained with him, however, for his recall of even difficult passages on written tests was usually exact--right down to the correct punctuation. He also said that he rarely had to study much and seemed to remember the grammatical rules after only one or two mentions. As a result of having spent some ten minutes each morning as a child concentrating his gaze on a fixed point on the wall, he enjoyed better than 20/20 vision (in addition to a first-rate memory). According to Chauchard (1974), the ability to concentrate and pay attention is one of the main elements of memory. If all our students had received a training in yoga as children, perhaps researchers would not now be studying such phenomena as "language-skill loss," (MLA Newsletter, 1980). No wonder that the Bulgarian students observed in the 1970's achieved such excellent results; as Bagriana Belanger (1978) points out in her book, *La Suggestologie* , yoga was part of their background.

It goes without saying that techniques adapted from Suggestopedia and Sophrology are better suited to immersion programs in which the emphasis is on the oral (as opposed to the written) language, on communicative competence as opposed to grammatical analysis (Schaefer, 1980). Short, simple sentences are more easily committed to memory during the concert session than long, complicated ones (Richaudeau, 1973). However, not all of us are able to change the direction of our department's language programs or even to choose the content of our courses. Most of us teach, not intensive courses during the summer months, but regular classes meeting fifty minutes or so a day for three to five days a week. It is my belief, however, that suggestopedic/sophrological techniques definitely improve the class atmosphere and student motivation--even when these techniques are limited in scope. Assignments come in early; absenteeism is rare. As can be seen from the questionnaires, students respond extremely well to the baroque music and the suggestions for pleasant learning. Even if all the students in a given class do not receive a high grade, written and oral work usually improves. As Lozanov remarks in one of the more coherent passages in *Suggestology and Outlines of Suggestopedy* :

> The main aim of teaching is not memorization, but the understanding and creative solution of problems. However, the main obstacle encountered in teaching is memorization,

> automation and the assimilation of the material presented. Teaching methods have so far been in accordance with the accepted "restricted" capacities of the human personality . . . In these circumstances, one of the most important tasks of suggestopedy has been to free, to desuggest and to explain to all students that human capacities are much greater than expected . . . Suggestopedy stimulates not only the memory, but the whole personality.

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L'adaptation de la Suggestopédie et de la Sophrologie à l'enseignement traditionnel des langues étrangères

Dans des cours de français enseignés aux débutants et aux faux-débutants au Collège Scarborough (Université de Toronto) en 1979 et 1980, certains éléments essentiels de la Suggestopédie et de la Sophrologie ont été utilisés et, en particulier, la voix douce et persuasive du professeur et la séance de relaxation pour l'assimilation du matériel linguistique à un niveau inconscient. Les étudiants qui avaient les meilleurs résultats en français oral et en français écrit étaient ceux qui étaient capables de se relaxer facilement (la relaxation facilitant l'apprentissage du vocabulaire et des dialogues) et qui avaient reçu à l'école une bonne formation en grammaire anglaise (ce qui les aidait à faire des exercices de grammaire lors des tests et des examens). D'après l'auteur, des techniques adaptées de la Suggestopédie et de la Sophrologie créent une bonne atmosphère dans la salle de classe, motivent les étudiants et amènent une amélioration de la performance langagière des membres de la classe même si l'emploi de ces techniques est limité en quelque sorte par les conventions d'un cours (ou d'un texte) plutôt traditionnel.

Die Verwendung von Suggestopädie/Sophrologie auf den traditionellen Fremdsprachenunterricht

In meinen Französischvorlesungen für Anfänger und falsche Anfänger am Scarborough College, Universität von Toronto wurden 1979 und 1980 wichtige Elemente, die das Gedächtnis ausbilden, von Suggestopädie und Sophrologie gebraucht, insbesondere die beruhigende Stimme des Lehrers und die Entspannungsübung für die unbewußte Aufnahme des

Lernstoffs. Die Studenten, die die besten Leistungen in der mündlichen und schriftlichen Arbeit hatten, waren diejenigen, die 1) sich am besten entspannten (die Entspannung verbesserte das Auswendiglernen von Vokabular und dem Aufgabenstoff) und 2) den besten Hintergrund in der englischen Grammatik hatten (das bedeutete, sie hatten die besseren Leistungen in schriftlichen Prüfungen und Examen). Nach der Meinung der Verfasserin ist es sicher, daß diese suggestopädischen/sophrologischen Methoden die Atmosphäre, Motivierung und Leistung der Studenten verbessern, wenn auch diese Methoden auf den traditionellen Fremdsprachenunterricht beschränkt sind.

La Adaptación de Suggestopedia/Sophrology en las Clases de Idiomas Extrajeros Tradicionales

En el Colegio de Scarborough, Universidad de Toronto en los años 1979 y 1980 se emplearon componentes de enseñanza de memoria Suggestopedia y Sophrology en unas clases de francés para principiantes, y en particular la voz calmante del maestro y la sesión de relajamiento para la asimilación inconsciente de la lección. Los estudiantes que obtuvieron los mejores resultados fueron los que 1) se relajaron mas (el relajamiento mejoró el recuerdo del vocabulario y las lecciones) y 2) habían recibido buen entrenamiento en gramática inglesa (significó que podían ejecutar bien los ejercicios gramaticales escritos en los exámenes). Según el autor, las técnicas Suggestopedic/ Sophrological mejoran sin duda el ambiente de la clase y el desempeño estudiantil, aunque solo se dán en las clases de idiomas extranjeros.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(2)

On the Scientific Complex Management of Intensive Foreign Language Teaching

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Abstract

This address deals with teaching methods, teaching techniques, teacher abilities, aptitudes of students and student-teacher interactions as currently conceived at the Foreign Language Center. The approach is both eclectic and pragmatic, based on social science research in several areas. This global method is empirically superior to conventional methods of foreign language teaching.

Prologue

Ladies and Gentlemen; Colleagues. I have come from far away, from Bulgaria, a country small in size but rich in traditions which this year celebrates its 1300th anniversary. First of all, I should like to express my gratitude to the Society for Accelerative Learning and Teaching and, in particular, to Dr. Jane Bancroft and to Dr. Donald Schuster who invited me to participate in your annual conference in the very interesting and very attractive town of Ames. I want to thank you most sincerely for the warm welcome which I have received here.

As a member of the Bulgarian National Association of Foreign Language Teachers--which has recently become a member of the International Federation of Teachers of Romance Languages--I wish to convey to you cordial greetings on behalf of my Bulgarian colleagues.

Before coming to the United States, I had a special meeting with the Directors of the Bulgarian Association of Foreign Language Teachers and it is my pleasant duty to express their wishes for great success in your teaching and research work. They asked me to inform you that we are greatly interested in everything you do--your methods of teaching, results achieved and efficiency of your pedagogical work. We should like to know your opinion on a number of questions concerning different aspects of foreign language learning and teaching--especially with regard to intensive courses for adults. We think that such official contacts and discussions will have a positive effect on the methodology of foreign language teaching. The problems we face are complex because, as we all know, foreign language teaching presents numerous--and characteristic--difficulties.

I should like to tell you that I consider your invitation to be an expression of your interest in the activities of the Foreign Languages Center in Sofia, in its structure and organization of teaching, and in the problems on which we have been working.

Each year over 1,200 persons attend courses at the Foreign

Languages Center and its branches. We have four types of courses: five-month intensive courses (five hours, six days a week, for a total of 600 hours); ten-month intensive courses (for a total of 1200 hours); semi-intensive courses (three hours, four times a week, for a total of 480 hours; evening courses (three hours, twice a week). Most of the students are lecturers at Higher Institutes or research workers from all areas of the country. English, French, German, Spanish and Arabic are taught at the Center. The English and French Departments each consist of more than fifty qualified teachers. We use a variety of textbooks: English 901; New Concept English by L. G. Alexander; the French audio-visual "De vive voix"; "Le francais et la vie"; the German "Guten Tag, Berlin"; "Deutsch fur Auslander," etc.

Since last year we have been working on two textbooks for Bulgarian students of English and French. These are based on a contrastive principle. The manuals are being prepared by two research teams and have already been partially put into practice. They will be put into operation on a larger scale in the near future.

There is a special foreign languages section in the Scientific Laboratory in our Center. It carries out research in contrastive linguistics; the problems of language tests and measurement; certain psycholinguistic problems such as memory, perception, association. Attention is paid to all the processes in teaching that affect the efficiency of language learning for adults. Some of the programs included in the scientific plan of the Center are subsidized by the state and the Council of Higher Education in the Ministry of People's Education. The results achieved are published in various periodicals, journals, magazines and the Center's annals.

In my paper, I shall deal with but one aspect of our scientific research: the complex scientific management of intensive foreign language teaching. This research is being conducted by the Scientific Laboratory and by members of the Center's English and French Departments.

At this point, I should like to emphasize that my paper refers only to a few of the areas that are being researched at the Foreign Languages Center. I do not in the least claim that my paper sums up the experience and discusses ideas and programs at other foreign languages centers throughout the country. I do not claim, either, that my presentation gives a thorough review of all the achievements of the past few years in foreign language teaching in the Soviet Union or in the other socialist countries.

On the Scientific Complex Management of Intensive Foreign Language Teaching

One of the current tendencies in foreign language teaching concerns the intensification of the learning process with a consequential gain in pedagogical and economic efficiency. We believe that the teaching-/learning process, under intensive conditions, promotes the acquisition of communicative skills in the foreign language. Several elements are important in this process: modern teaching materials; scientifically-tested teaching techniques; the creativity and intelligence of the teacher; the aptitude of the students; interaction between teacher and students(s).

An analysis of educational journals reveals a great variety of ideas concerning intensive language learning and teaching:

1) A theoretical explanation of the factors in the intensification process, through analysis, differentiation and classification. Some examples are: an analysis of the mechanism of speech production (Zimnyaya, Leontiev et al., 1980); the psychophysiology of language acquisition (Charles Bouton); an analysis of the psychology of communication (Leontiev, Lomov, Bodalyov et al., 1974).

2) An organization of the process of foreign language teaching on the basis of a given principle, a given perception, a dominant psychological activity. Some examples are: aural-visual perceptions and direct presentation of target language information (i.e., audio-visual methodology); control and self-control through the stimulation of logical thinking in the students (i.e., programmed teaching); the problem-oriented teaching process (i.e., the problem approach).

3) A study of the student's personality and its characteristics with a view to revealing untapped resources for the process of intensive teaching and learning.

4) Communicative competence as opposed to the study of grammatical rules. The so-called functional approach is very much in fashion toady. According to the ideas behind this approach, the students' attention should be drawn to speech activities, to communication in a global sense and not solely to the uttering of isolated sentence patterns.

5) Other recent trends include: language learning based on an authentic reality (Debuserie et al.); a combination of various teaching methods such as exists in the cognitive approach; the inter-disciplinary approach in which language learning is influenced by concepts from psychology, cybernetics and the arts; contrastive linguistics; the expression of pedagogical results in statistical terms (Flanders, Landsheer et al.); the improvement of teaching techniques.

These various trends and approaches may be said to bring about, to some extent, an intensification of the learning process. Nonetheless, partial improvements cannot lead to the optimization of this process. Neither a problem-oriented teaching process, nor the students' individual work, nor the use of audio-visual teaching materials can, in isolation, bring about efficient learning. Moreover, a partial or fragmentary approach goes against the very nature of the process of language acquisition. One approach, when used in isolation from the others, deprives the learning process of variety and chance of success; classroom activities become restricted and the teaching process overly rigid.

In spite of a great variety of characteristics, the human personality should be considered as a whole. Modern anatomical and histological research confirms that the cortex and subcortex are in close relationship one to the other. Relationships between the left and right hemispheres of the brain have been thoroughly studied. Bernstein and Anohin have provided evidence for the fact that only the integral *synthetic* approach can give a satisfactory explanation of the mechanisms that determine man's behavior. The concrete behavioral act is in direct dependence on needs, motivation, interests, the program of action and the expected results of the action. An analysis of the creative process shows that, during this process, "various elements of thinking . . .of intuition and imagination, of visual and emotional memory enter into original relationships" (Meylach et al.).

The practice in certain experimental schools in Bulgaria shows that conditions exist for the integration and equivalent development of both the emotional and rational aspects; evidence has been provided for the possibility of an all-round development of all the natural aspects in man--the physical, psychological and spiritual aspects.

As a system, language has a complex character. Language is a perfect example of the synthesis of form and content; language is realized in speech and speech itself realizes language.

In modern methodology, the main components of the learning process--namely purposes, methods and means of teaching--are in close relationship and interaction.

The acquisition of a second language is based on the unity of conscious and subconscious processes, on the activity of all the psychological processes, i.e., thinking, memory, imagination, the emotions. Second language learning is based on integral psychological activity. The communicative and linguistic aspects are closely related one to another. A number of introductory chapters in books concerned with teaching techniques provide evidence for these close relationships.

On the basis of what has been said thus far, one can see the necessity for elaborating a strategy for the global intensification of the process of teaching a second language. What is needed is the application of a scientific complex method to the teaching of a second language to adults. Particularly important is the relationship: Teacher--Teaching Method--Learner. The intensification process can be realized when the different phenomena and processes are considered in their relationships one to another and not when they are opposed one against the other. The common elements, the global aspect must be considered without however eliminating the specific elements, the details, the isolated phenomena.

Experience proves that linguistic competence and communicative performance can develop along parallel lines from the very beginning of the learning process. And, indeed, in all cases when the right distribution of structural-transformation and communicative exercises has been discovered, the results are considerably improved. In this complex process of integration, both the linguistic and communicative aspects develop within the framework of a unified system.

The complex scientific method recognizes the relationship between processes and communication activities. In addition, it provides conditions for the efficient utilization of the achievements of other sciences which are closely related to methodology, i.e., psychology and psychophysiology, social psychology and psycholinguistics, among others. To date, these sciences have been concerned with isolated aspects of second language learning. In isolation, on the level of laboratory experiments, these sciences have not been able to encompass the learning process in its totality.

In our opionion, a functional integration of these sciences must be established. Each of these sciences has its own specific possibilities for the investigation both of particular phenomena and factors as well as their relationships and interactions. The significance of such an integration lies in the coordination of diverse research methods and the final results of the teaching process.

This complex approach is supported, although in different ways and at different levels, by such eminent psychologists and methodologists as Renzo Titone (Italy, 1978), Edy Roulet (Switzerland, 1972), andre Reboulet and Henry Holec (France), Zimnyaya and Bim (U.S.S.R., 1980), etc. Professors in the Department of Methodology of the University of Sofia are also working along similar lines (A. Ilieva, 1978; P. Patev, 1980).

In general, what follows is the strategic basis on which we organize the complex scientific method for the intensive teaching of a second language:

1) Determination of the needs and motivation of the students; determination of the students' capacities for second-language learning.

2) Study of various typologies of learning.

3) Setting up of the bases of the course, as well as the teaching techniques.

4) Study of the dynamics of the processes involved from a psychological and socio-psychological point of view. Experimental work follows the accepted pattern: a) theoretical outline, b) discussion of the project to be adopted, c) trial run, d) revision, e) experimentation, f) analysis of the experimental results, g) modifications, h) implementation on a large scale.

The learners' language needs are determined before the course begins. Their needs are determined on the basis of a five-step scale which has been elaborated by specialists at the Center. The students who are going to attend the courses show their preferences and interests concerning nine activities which have been set up in advance. The analysis of the experimental results from 157 beginners and intermediate students has revealed that the students show the greatest interest in reading specialized literature (83%) and in acquiring fluent communicative competence in the second language (76%). These have proved to be stable tendencies.

At the same time, investigations are carried out into the language needs of the students and what they should know at the end of a course. Special attention is paid to the lexical minimum and work in contrastive linguistics (English/Bulgarian; French/Bulgarian). This research is supervised by A. Danchev.

On the basis of these investigations a course is designed which takes into consideration the goals of the learning process, its psychological, linguistic and psycholinguistic aspects and the learners' needs and interests.

Predicting the learners' abilities regarding second language learning is a very complex problem. Debates concerning the notion of "ability" are ongoing. Our attention is directed towards the individual learner's capacity for rapid progress in the learning of a foreign language. A special system of prediction tests has been developed by specialists at the Scientific Laboratory in Applied Linguistics with the help of research worker, Elka Todeva. The results from the experiments that have been carried out with 252 students using this system of tests have confirmed the possibility of predicting the learner's progress in the process of second language learning. The coefficient of correlation for the prediction test system and the results from the language proficiency tests is 0.72. We have found that those students who make good progress in the learning of a second language have 1) greater precision on the completion of tasks in the memory test; 2) more ability to reason; 3) highly sensitive hearing. In measuring the abilities for analysis, synthesis, abstraction and generalization, one can see an important difference between two types of students. Those students who make relatively rapid progress solve correctly 76% of the more complex test problems while those students who progress relatively slowly solve only 28% of these problems. The results from these experiments refer only to the courses and methods that are being used at the Center. The experience with the prediction tests showed that they should be interpreted as a guide only. In the course of learning, changes are observed which are caused by a number of factors. These factors may have a positive or a negative effect on progress. However, in spite of the foregoing remarks, the appropriate tests can be regarded as reliable for the forming of homogeneous groups of learners in English, French, German and Spanish.

The determination of a teaching strategy according to the typology of learning and the rhythm of acquisition is still in its beginning stages. At present, our attention is centered on the characterization and the definiton of different learning typologies. We also try to get a general picture of the specific difficulties of the individual in foreign language acquisition. We examine these peculiarities within a definite language learning and socio-psychological context. We want to know how certain types of students learn a foreign language with different methods of teaching; in the micro-climate of a specific group; with different teachers under certain learning conditions. We have established that there exist several typologies of language acquisition. Some of the students need a greater quantity of linguistic information and linguistic exercises. They want to have a clear idea of the language as a system. They have more difficulties in memorizing, in reproducing items and in the spontaneous production of speech. These same students, however, make fewer mistakes and they have a better developed sense of self-control.

The second group of students does not need a great quantity of grammar and grammatical exercises. They learn the language by means of a great variety of "emotionally colored" texts. These students accept and assimilate linguistic elements in a synthetic way. They need grammatical exercises only for the purpose of better understanding linguistic phenomena. They easily produce sentences in the foreign language but their sense of "control" is not so strong.

The third group of students adapts easily to either a synthetic or an analytical approach. Of course, we always have several difficult cases--students who require great patience on the part of the teacher and many consultations.

We still do not use psychodiagnostic methods of investigation. Relying mainly on experience, we adapt the exercises and roles used to the individual abilities of the learner. We attempt to place the choice of learning strategies and tactics on a sound scientific basis. At this point, we should underline the fact that we not only do not underestimate the complex scientific approach but, what is more, we adapt it with regard to our personal experience in teaching.

While emphasizing the importance of an individual approach to the learners, at the same time we keep in mind the fact that placing too much emphasis on the differences between the individual students has its disadvantages. The introduction of methods that center attention upon the learner may bring one to regard the learners as individualists and not as personalities who are affected in one way or another by the conditions under which they study. fected in one way or another by the conditions under which they study. Too much individualization can hamper the proper implementation of an organized method of teaching. We are convinced that, in the future, the process of teaching will be based on scientific principles. A system of set requirements and principles will be followed which will determine all the concrete activities and operations in teaching. This is a very important point to make because language learning is not a simple process. It is a complex process which involves both teacher and student. And nowadays many define the term "method of teaching" as a system which has concrete didactic goals and which involves mutually connected pedagogical activities on the part of the teacher and corresponding cognitive activities on the part of the learner.

How do we apply the complex scientific method in the writing of textbooks and in the practice of teaching? The French textbook, which is currently being prepared, covers all language activities (listening, speaking, reading, writing and translation) from the very beginning. The textbook is designed on the basis of the following elements: a) a lexical minimum, based on "le francais fondamental" and fourteen dictionaries and textbooks published in Europe; b) research on "speech acts" published in *Niveau seuil* by the European Counsel in Strasbourg and in the Soviet Union by the so-called "rechevoy etiket"; c) social and historical background in a contrastive design which includes political, economic, social and cultural aspects from life in France and in French-speaking countries; d) a system of typical mistakes that Bulgarian learners make (many of our efforts are centered on error analysis; we have already registered about 13,000 mistakes from written works or from tapes of oral performance), e) scientific contrastive linguistic studies that relate to the grammatical structures common to the systems of both the French and the Bulgarian languages. At this point we should like to emphasize how important this factor is since all French manuals have been designed for learners of various nationalities (and not specifically for Bulgarians) and do not take into consideration the very important factor of interference. We have a special group of qualified research workers investigating these problems, i.e., doing contrastive linguistic studies under the supervision of A. Danchev, research director of the Center's laboratory.

Each text is very informative. It is "authentic," typical and presents a situation based on real life. Special attention is paid to the arrangement of exercises and drills. Within the organization of a given system of exercises we try to incorporate psychological motivation and variety. The exercises include tasks which stimulate the students' thinking processes—"What would you do if . . .?"; mathematical problems; problem situations; etc. Tasks are included which stimulate the imagination (e.g., discussions on the family, transportion, week-ends in the year 2000). Exercises must activate all the psychological processes in the learners. In other, more complex tasks, the learner is asked to make decisions in various situations. For example: You arrive in a town you have not visited before; you are very tired but at the reception desk of a given hotel, you are told that: 1) there are no vacant rooms; 2) there are no vacant rooms but something might come up; 3) there are vacant rooms but they are rather expensive; 4) there are rooms on the top floor but the elevator is out of order; 5) there are no vacant rooms in the hotel next door; and so on. Similar tasks which presuppose a number of decision-making processes not only interest the learner but they reveal the unique individuality of the students in that their imagination is stimulated. In our opinion, a set of communicative exercises activates the learner's creative abilities and stimulates his intellect. Reacting in authentic situations is particularly stimulating to adult learners. Appropriate exercises motivate the learner in the intensive learning process. Our textbooks are based on this complex approach. We do our utmost to show students that language is a means of communication and that communication encompasses both the exchange of ideas (i.e., the informational function of language) and the process of interaction (i.e., the regulatory function of language).

We employ a complex scientific approach not only in the management of the process of teaching but also in our efforts to objectify pedagogical results. As an example, we can mention the analysis of speech production at different stages of the learning process. In analysing speech, we must take into account both the linguistic and communicative, both the temporal and content characteristics of the appropriate utterances. If we are to observe strictly all the requirements of scientific pedagogical experimentation, we must measure the richness of vocabulary used, the number of complete thoughts uttered, the number and nature of mistakes made, the number of hesitations, pauses, the relative and absolute tempo of speech production, etc. All these characteristics can be measured with the help of a system of evaluation or a chronometer. It has been established that, in experimental groups, where grammar has been combined with creative or free communication, the number of so-called "hesitation sentences" on the part of beginners is approximately 18.7%. The percentage of such sentences with control groups in which grammatical exercises are almost exclusively used and in which the lesson is primarily grammar-oriented is 39.3%. These preliminary data are the basis for a tentative conclusion regarding the greater spontaneity of speech production on the part of the experimental groups. Considerable differences were also registered in the number of syllables utter ed per second; once again, the experimental groups proved to be superior.

We believe that the analysis of the results received, registered and taped in the course of a number of years can provide a suitable foundation for the establishment of a differentiated average norm for beginners, intermediate and advanced learners. After we meet all the requirements of statistical representation, validity and reliability, this norm can be used as a target for both teachers and learners.

Similar multifactor analyses are also used at our Foreign Languages Center when reading and listening comprehension and the ability to read or write are evaluated. This is done with the help of multidimensional scales under the supervison of Senior Research Worker E. Gerganov, Head of the Laboratory of Applied Linguistics at the Center, with the participation of experts and by means of mini-computers. Thus we are able to measure both the efficiency of teaching in the different groups and the efficiency of textbooks used at the Center.

The next aspect of the application of a complex scientific approach in the management of the learning process is the measurement of the dynamics of the different psychological, sociopsychological and sociological processes. These investigations have as their goal the perfecting of a system of foreign language teaching and the adaptation of this system to the achievemnts of differential psychology, the psychology of the individual, sociology, didactics, etc.

Having worked out a system of indicators with the assistance of a social psych ologist, D. Gronev, we receive information about the following: the expectations, attitudes and motivation of the learner; the learner's value orientation and social attitudes; the student's image of the Foreign Languages Center; the relations within the group and group dynamics; the sociopsychological portrait of the teacher (variable and invariant components); the mechanisms of personification and projection; self-evaluation and activity over a period of time; psychological attraction of the different methods employed; the individual work of the students; etc. In the course of our investigations, the interelation and action of several socio-psychological mechanisms in foreign language teaching and learning have been established.

The first results achieved show that there are large differences between the experimental groups and the control groups. It has been found that students in the experimental groups show greater motivation after two months of study. Fifty percent of them have crossed out 10 (the highest point of a ten-grade scale); 20%–9, and 30%–8. No one from our first control group has underlined 10, 13% have crossed out 9 and the majority of the students, i.e., 67%, have marked 8. This difference is relatively constant although it has increased in our most recent investigations. The results have been published in a Soviet collection, "Methods of intensive foreign language teaching" (Moscow, 1979, vol. 7). The most recent data and investigations are to be published in the annals of our Center.

All the results of this type of study are written down in a special dossier for each and every student. This gives us the opportunity to see the correlation between different processes and the final results achieved by the learners. We can also: a) define the relative value of the factors that influence the final results achieved; b) follow closely and direct the development of the complete teaching process; c) make certain corrections, not only of the methods of teaching but also of the tempo, the content and the forms of pedagogical interaction. This makes it possible for us to come to certain conclusions and generalizations concerning the specific character of intensive foreign language teaching to adults.

The successful implementation of this approach presupposes great efforts on the part of the teachers and research workers concerned. The teacher can no longer be merely an organizer or a person who merely transmits information. The teacher must be able to stimulate and activate the learner. It is not enough for a modern teacher to be familiar with the latest theories and tendencies in linguistics. He must also be familiar with the specific peculiarities of the psychology of language learning in adults, with the sociopsychological processes of language teaching. He must possess a knowledge, however superficial, of such disciplines as psychophysiology and sociometrics. Of course, theoretical knowledge is not enough. A teacher must have a rich and varied repertoire of pedagogical techniques at his command. The teacher must be able to create an optimal micro-climate in the group. He must be able to motivate the student to learn. He must be able to "give life" to every concrete task or exercise in class. We know that positive results cannot be achieved by imposition, by mechanical formation of abilities and habits or merely by the teacher's authority. Effectiveness can be achieved in a creative process only when all the participants can fully realize their abilities. For that purpose, one must simultaneously stimulate the mental, psychic and spiritual processes taking place in the learner. This is what we consider to be a new type of language teaching. The learner ceases to be an object of teaching and control. He becomes a person who is able to learn things by himself, who has self-control. The student gradually becomes a creative personality. What is more, we need a change on the part of the teachers as well. They must be ready for self-development, they must learn and work, they must be creative.

Conclusion

1) Intensive foreign language teaching is a complex process that can successfully be guided and regulated by a global, scientific approach. With the great variety of textbooks and methods currently in existence, it is important and necessary to undertake a critical and profound analysis of the rational, effective and positive elements in the methods in use.

2) The complex scientific approach makes it possible to work out and utilize a new and better method of teaching; in this approach all the interrelations between the different processes and phenomena in language learning and teaching are utilized. We can elaborate a global intensive teaching method that is based on the achievements of psychology, linguistics and psycholinguistics, that is in agreement with contemporary theories on the preparation of textbooks. This global method conforms to the needs and interests of the learner.

3) The intensification process in a complex, scientific system makes it necessary to bring together specialists in different fields. We are convinced that this "team effort" will increase the efficiency of language teaching and will bring about an optimization and intellectualization of pedagogical work.

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Gestion scientifique et complexe de l'enseignement des langues étrangères

Dans cette conférence qui a été faite au symposium SALT en avril 1981, on parle des recherches qui se poursuivent actuellement au Centre d'Etudes de langues étrangères à Sofia. Ces recherches comprennent des travaux sur les méthodes et les techniques de l'enseignement des langues étrangères; la personnalité de l'enseignant; l'aptitude et la motivation de l'apprenant; les rapports entre les professeurs et les étudiants. Dans le Centre d'Etudes, l'approche de l'enseignement est basée sur une méthode globale, complexe, scientifique; c'est une approche à la fois éclectique et pragmatique et qui repose sur des recherches interdisciplinaires en sociologie, en psychologie, en linguistique. Cette approche globale est supérieure aux méthodes conventionnelles qu'on pourrait utiliser pour l'enseignement des langues étrangères. Dans les mots du texte original de l'auteur: "L'approche scientifique complexe crée des possibilités d'élaborer une pédagogie créatrice plus efficace, étant donné qu'elle emploie pratiquement toutes les relations mutuelles entre les processus dans l'enseignement, ainsi que les facteurs qui influent sur lui. Sur cette base théorique et sur les données obtenues à partir des nombreuses recherches effectuées sur le processus d'étude, nous édifions un enseignement globalement intensif qui est conforme aux acquisitions de la psychologie, de la linguistique et de la psycholinguistique, à la théorie contemporaine pour créer un manuel, ainsi qu'aux intérêts et aux besoins des apprenants."

Über die wissenschaftliche, komplexe Führung des intensiven Fremdsprachenunterrichts

Es handelt sich hier um Lehrmethoden, Lehrtechniken, Lehrerfähigkeiten, Studentenbegabungen und die Interaktionen von Studenten und Lehrern, wie sie jetzt an dem Fremdsprachenzentrum begriffen werden. Diese Methode ist zugleich eklektisch und pragmatisch und auf Forschung in mehreren Bereichen der Sozialwissenschaften gegründet. Diese globale Methode ist den konventionellen Methoden des Fremdsprachenunterrichts empirisch überlegen.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(2)

The Holographic Nature of the Reading Process

Jack Levy

Abstract

The author reviews the process of creating holograms, and compares human learning with them. In learning to read as in other learning, more than the usual five senses are involved. Reading instruction is a combination of relaxation, movement and music before, during and after the reading of prints. This combination of rhythm, movement/non-movement is the interference pattern or structure underlying any hologram.

What is a hologram? The hologram as a model of the universe had its heralded beginnings in the development of laser technology. To create a laser hologram there must be at least two interacting laser light components that create between them an interference pattern of light waves. Information is then stored in this wave interference pattern. Laser light is, in essence, coherent light, and coherent light is monochromatic in that only a single color of the spectrum is produced by the laser. All the coherent light coming from the laser moves forward in even, flat fronts which allows the light to travel in a narrow beam over large distances.

In order to create a hologram, a laser light beam is split into two parts by a semi-transparent mirror which allows part of the beam to travel through the mirror unimpeded to an exposed photographic film after it is spread open by passing through a lens. This journey is uneventful and travels directly to the plate. This beam is the reference beam. The other half of the beam, known as the working beam, is reflected by the half-mirror, spread open by a lens, and has an experience. On its reflected journey from the mirror, it meets with an event or an experience, for example, a model car, that it illuminates and interacts with. Then it is reflected by the model car to the photographic plate. Before reaching the film it encounters the reference beam to form an interference pattern that is imprinted on the exposed film.

The laser negative is not like the negative of a photograph in that these patterns do not resemble the model car. The interference pattern is a record of light wave ripples formed by the two beams' interaction. The ripples are similar to the ripples in a pond when two stones are cast into a pool of water. The hologram ripples, interference waves, contain specific information that can be elicited from the film by illuminating the exposed film with the same light used in making the hologram, in this instance, another laser beam that directly illuminates the plate. When the laser beam is directed at the plate, a three dimensional model car appears suspended in midair. An illusion manifests itself as an apparent reality.

This three-dimensional apparition is the result of the information-storing capacity of the hologram. Information is stored in the interference wave patterns etched in the photographic plate. Just as each cell in our bodies carries the complete blueprint needed to make copies of ourselves, each piece of the hologram contains all the information necessary to reproduce its recorded experience--the model car of our example. Amputating any piece of the hologram and then illuminating it with a laser beam will produce the entire image of the car. Cutting the hologram into any number of smaller units will still result in the entire image's being remembered in any of the sections. The image generated from a smaller section will appear a bit fuzzier, i.e., have a lower definition, but, no matter how minute, the entire image will be discernable. Conversely, a larger section illuminated yields a much sharper definition; a more precise memory. Regardless of size the complete memory system remains intact.

Succinctly, a hologram is Nature's means of storing information through an interaction of two sets of light waves to form an interference pattern. The interference wave, the pattern behind patterns, is imprinted in the exposed film that creates a visual representation of the pattern, not the object photographed. The holographic pattern, therefore, is not in a one-to-one correspondence with a surface manifestation, but is in the deep structure of the patterns that connect all things - inorganic and organic.

The holographic nature of the reading process had its quiet beginnings almost fifty years ago when Peter Spencer (1970) challenged the commonly accepted axiom that reading referred only to a person's ability to sense and interpret the printed word. At that time he identified the reading process as a generalized behavorial response to any type of stimulus situation. Words are only the cues for the recall of ideas, and the word patterns are the arrangement of the ideas recalled and projected to them. Words stand for ideas. Ideas are derived from other sources; therefore, it seems correct to include in the interpretation of printed words the experiences that initiate the ideas. With statements such as these Spencer introduced the concepts of primary and secondary reading as a holistic unit.

Primary reading in the Spencerian sense does not refer to the primary grades of schooling, but rather to the basic or fundamental aspects of all learning to which the acquisition of reading is no exception. Primary reading is a basic life process that begins long before the child enters school, even before the child interacts informally with print at home. Primary reading starts as life starts; it is the sensing and the interpreting of the world around the child. He/she senses, interprets and responds adaptively as an organismic whole to stimulus situations (Douglass, 1973). Primary reading increases the potential worth of secondary reading--the print experience. Primary reading was the first definitive statement as to the holistic nature of the reading process since John Watson's behavioristic crusade buried E. B. Huey's (1908) insights to the reading process under an avalanche of observable data.

Primary reading is the primary sensing of the universal deep structure. Primary reading is the attunement of the universal silent pulse within each individual through his/her sensing contacts. While each of our sensory contacts are limited, collectively they allow for a wide spectrum of potentialities. Sight is limited in its external coverage and is activated by only a narrow wave of energy known as light; yet, it can be in a sense reproduced internally as visual imaging without the external light source. In fact, any of our traditional, our major senses of sight, smell, hearing, touch and taste can all be reproduced in the inner world or our physical system without the external stimuli. Numerous experiments in hypnosis attest to this internal imaging. Our sensing apparatus is an intricate network of exteroceptors and interoceptors that are considerably more in number than five. Murchie (1978) and Key (1974) place the number between thirty-two and thirty-six. Thus, if we truly aspire to return to the basics in reading, it must not be another cyclical swing to an emphasis on phonics, look-say, etc., but rather it must be the return to a fuller consideration of Spencer's primary reading. Primary reading in this context not only strengthens the reading of print for the novice by providing the cues and clues to meaning through our "major" senses, but also allows for the full inclusion rather than the subversion of other ways of knowing that do not rely on the verbal/print medium. More thoroughly cultivated exterocepters are indispensable for entraining the energies of the external world with the interoceptors of the internal environment. It is this attunement of the exteroceptors and interoceptors that can develop the widest spectrum of intelligence.

An educational koan: Why should the average be the norm?

Primary reading is fundamental to all intellectual growth and, as such, must be given greater recognition by educational personnel. Schooling is replete with secondary matrix shifts and abandonments. Primary reading provides the safe place from which new learnings and fresh interpretations can spring. But, to happen, educators need to recognize the truly basic nature of primary reading and its neglected potentials. Too often, primary reading becomes a shallow reading-readiness exercise that is readily abandoned for cognitive "things" before the student has secured a safe place in his primary reading. Abandonment is a reality of schooling, as it is in life, but school includes many forms of mechanically induced abandonments: content changes, classroom changes, teacher and peer changes that the child must handle. In addition to these surface manifestations and their deeper messages, the learner must deal with a continuing shift of educational philosphies and practices among the individual teachers and the school administrators. Uncertainty at all levels becomes the norm rather than the exception.

To reduce the negative impact of these certain uncertainties, primary reading needs to be stressed rather than glossed over as introductory excercises to just prepare for print. Primary reading in school needs to deal with the students' bioenergy ranging from eidetic imagery to psychokinesis, from telepathy to healing: Primary reading is the key toward a new dimension of being which includes secondary reading but is not bounded by it.

Secondary reading proponents, print reading experts, are constantly searching for the basic elements of the reading process. "Back to basics" is once again a common plea, and once again the search goes off in the wrong direction; it is not the method or the material taught (Johnson, 1979) that contains the answer, but the student him/herself.

> So if the pedagogy of reading has remained essentially unchanged over the past 150 years, how can we explain why so many people feel that American children cannot read properly? Maybe the answer can be found in the forces at work in this changing society. *Maybe we need something more basic than the "basics"; a new philosophy to guide schools into the future.* (Emphasis mine) (Johnson, 1979, p. 646)

Primary reading goes beyond the five customarily acknowledged senses. Even within this group, two, sight and hearing, receive the thrust of instruction in schooling. Smell, touch and taste are usually peripherally included, if at all by the classroom teacher. None of the five modalities, however, are specifically developed and strengthened. The primary reading of one's own body is mainly neglected. How to listen to the body and how to interpret what it is saying is not a common curricular concern. But, in a "return to basics," the classroom teacher needs to address him/herself to these concerns, and, at the same time, realize that the body senses in many sophisticated ways other than the five apparent senses.

In the emphasis on cognitive growth, there is an overwhelming tendency to teach primarily to the head rather than to the entire mind-brain-body system. However, as the realization that the body system is holographic, and that all its subsystems contain intelligence however rudimentary, primary reading instruction will truly be a return to the basics. Instruction will be geared to a holistic mind-brain-body system. As the awareness that muscles remember and encode mental stress (Feitas, 1978; Feldenkrais, 1977), and that bioenergies exist in every cell, there will come a dramatic change in curriculum content and instruction. In the not too distant future, instruction in reading will go beyond the emphasis on print reading, and include universal deep structure as a base for a total bio-communication process. The content of reading instruction will not just emphasize the surface skills of literal and critical comprehension, but it will include such present-day highly controversial other ways of knowing, such as, astral projection (out-of-body experiences), aura reading, biofeedback training, altered states of consciousness including meditation and hypnosis, dream work, ESP, phenomena of clairvoyance, precognition and retrocognition, psychokinesis as well as in-depth instruction activity in eidetic imagery and fantasy play. All fall within the students' natural intent, natural inquisitiveness. For the younger child, the beginner in print reading, biocommunication will be a total immersion in primary and secondary reading that complement each other. For the reader of print, efficiency and depth of knowledge will surpass the modest expectations accepted today. Primary reading instruction includes the beginning reader of print, the inefficient as well as the efficient reader of print. Holistic knowing is all-inclusive.

Obviously, the curriculum potentials enumerated above are not going to be incorporated into schooling without scrutiny and study. However, there is no need to wait until all the evidence is in. A modest start in educational wellness can be instituted in existing reading classes (from beginning to adult) without sacrificing secondary reading learning. In fact, print reading can possibly be accelerated and enhanced.

Reading instruction for primary and secondary reading is a combination of relaxation, movement and music before, during and after the reading of print. The combination of movement/non-movement and its rhythm is the deep structure, the interference pattern, that underlies any hologram. Primary reading allows for considerably more vibratory pulsations of sensory awarenesses that result in a larger, a more definitive, a more powerful, and, most importantly, a more meaningful portion of the holographic reading process. The reader is the focus of meaning and the focus of control.

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La nature holographe du processus de la lecture
Dans le contexte de l'apprentissage, l'auteur résume le processus de la création des hologrammes. L'apprentissage de la lecture implique un grand nombre de facteurs. Avant et après l'enseignement proprement dit de la lecture, on pourrait utiliser la relaxation, le mouvement et la musique. Cette combinaison de rythmes, cette variation entre le mouvement et le non-mouvement, fournit la structure, les éléments de base, de l'hologramme.

Der holographische Charakter des Lesevorgangs
Der Verfasser gibt einen Überblick über das Verfahren von der Schaffung eines Hologramms und vergleicht das menschliche Lernen damit. Wenn man lesen lernt, wie auch in änderen Lernen, werden mehr als die gewöhnlichen fünf Sinne eingespannt. Der Leseunterricht ist eine Verbindung von Entspannung, Bewegung und Musik vor, während, und nach dem Lesen des Gedruckten. Diese Verbindung von Rhythmus, Bewegung/Nichtbewegung ist das Interventionsmuster oder die Struktur, die jedem Hologramm zugrunde liegt.

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Volume 6, Number 3 Fall, 1981

Published by the Society for Accelerative Learning and Teaching, Inc.

ISSN 0273-2459

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

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Back issues : $7.00 per copy, $12.00 per doubled copy. List of available back issues sent on request.

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Mailing Permit #190, Ames, Iowa 50010.

Printed in the U.S.A.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(3)

An Alternative to Self-Hypnosis

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Abstract

In this paper I present a conditioning procedure that I have developed that is yielding excellent results.

The client is given a conditioning tape, an intensifying tape and a temperature-tension colorimeter together with two instruction booklets.

The Conditioning Tape

This tape, which takes forty-five minutes to play, starts with one minute of nothing but a forty cycle per minute beat (which occurs during the entire time the tape is playing) of an electronic metronome. After a progressive relaxation induction and an intensifying section, the following suggestion is repeated for approximately 14 minutes: "Whenever you want to command yourself to do something, all that you have to do is slowly repeat the command to yourself mentally. Each time you repeat the command to yourself mentally, your body and mind resp ond to your command with greater and greater intensity."

The Intensifying Tape

This tape, which takes forty-five minutes to play, starts with one minute of nothing but a forty cycle per minute beat (which occurs during the entire time the tape is playing) of an electronic metronome. Then the following statement occurs: "Every time you go into hypnosis, your body and mind achieve a state of profound physical, mental and emotional relaxat ion more easily and with greater and greater intensity."

Then the following statement is repeated slowly for approximately forty minutes: "To achieve a more intense state of physical relaxation send a wave of relaxation from the top of your head all the way down to your toes. Visualize and feel this relaxation flowing all through your body. To achieve a more intense state of mental and emotional relaxation relax all the thoughts and cares and worries and concerns completely out of your mind. Just become all mind and no body, and as you do achieve a more intense state of physical, mental and emotional relaxation. Just let go and relax." The tape ends with a repetition of the opening statement.

The client is instructed to use the conditioning tape every day for one week and then several times per week for several weeks.

The client is instructed to use the intensifying tape once or twice per week for several weeks in the following way: Start the tape and command yourself, "Go into hypnosis." Then command yourself: "Listen to and comply with the directions of the next voice that your hear." Then just relax and without effort listen to the tape. When the tape ends, you can either remain in hypnosis, or you can command yourself: "Go out of hypnosis."

After using the conditioning tape for one week the client is instructed to do the following experiments often throughout the conditioning period:

A. GO INTO HYPNOSIS

Sit down or lie down comfortably, close your eyes, and give yourself the command: "Go into hypnosis." If you have used the conditioning tape properly, you will go into hypnosis with approximately the same intensity as that obtained when you last listened to the tape.

It may be possible to reach or even exceed that intensity by repeating the above command mentally several times and/or actually saying to yourself several times mentally: "Send a wave of relaxation from the top of your head all the way down to your toes. Relax all the thoughts and cares and worries and concerns completely out of your mind."

Experimentation, experience, and the application to which you are applying the hypnotic state will dictate what approach you should use and when you should use it.

B. THE TEMPERATURE - TENSION COLORIMETER

The temperature-tension colorimeter is simply a card with a plastic substance in the center which changes color according to the temperature of its surface with black indicating the low temperature end of the scale and with blue indicating the high end of the scale.

When your body is tense, the surface temperature of your skin is low; and when your body is relaxed, the surface temperature of your skin is high.

To perform the experiment simply repeat the command, "Relax," to yourself with your thumb on the plastic surface. You should with sufficient practice and repetition be able to change the color from black to blue; provided, of course, you have used the conditioning tape properly.

Since going into and staying in hypnosis is itself a relaxing process, you will be able to easily change the color of the plastic surface from black to blue by simply going into hypnosis and staying in hypnosis for a few minutes. However, there are many occasions when it would be inappropriate to go into hypnosis to relax, for example when you are in a meeting or driving your automobile.

The colorimeter, which was developed by Dr. A. A. Barrios, is available from him at Box 49939, Los Angeles, California 90049.

C. SOUND BLOCK

Obtain a clock with an audible ticking sound. Place the clock in such a position that you are just able to hear the ticking sound.

Then sit down or lie down comfortably and repeat to yourself mentally the command: "Do not hear the clock."

If you have used the conditioning tape properly, you will be able to block the ticking sound of the clock from your conscious mind.

D. PAIN BLOCK

Focus your attention on the back of either your left or right hand and repeat to yourself mentally the command: "The back of my left (right) hand is completely numb and insensitive to pain."

After repeating this command for a while pinch the back of your hand very hard with the other hand. If you have conditioned yourself properly, you should not feel any pain.

Notice that if you first get very relaxed, it is easier to block the pain.

For best results all of the experiments should be done in a warm room.

Once the client has properly conditioned himself, by listening to the tapes and performing the experiments, the applications are almost unlimited. The client is instructed that there are two ways that he or she can proceed after sufficient conditioning has been realized:

The Direct Command Technique

There are three ways you can use the direct command technique after you have sufficiently conditioned yourself by listening to the conditioning tape.

1. Simply repeat the command to yourself mentally. Example: "Go to sleep, go to sleep, go to sleep...etc."

2. Repeat the command to yourself mentally, but add the command: "Whenever you want to command yourself to do something all that you have to do is slowly repeat the command to yourself mentally." Example: "Whenever you want to.....go to sleep, go to sleep, go to sleep, go to sleep, whenever you want to..., go to sleep, go to sleep, go to sleep, whenever you want to..., go to sleep, go to sleep, go to sleep, go to sleep...etc.

3. First command yourself: "Go into hypnosis." Then intensify the hypnotic state as explained in Experiment A if you so desire. Then proceed as in Method 1 or Method 2, whichever you prefer.

For some commands you may wish to go into hypnosis and then after a while command yourself to go out of hypnosis before using Method 1 or Method 2. Experimentation will allow you to decide how to proceed.

Classical Pre-Hypnotic Suggestion-Visualization Programming

Essentially with this technique, you first consciously repeat several times a statement which states your goal. You then command yourself: "Go into hypnosis." While you are in hypnosis, you visualize your goal as being already achieved.

The client is provided with a list of standard references, which elaborate on the classical method.

Summary

Although the idea of giving commands to oneself directly without the formal use of hypnosis goes back at least to Coue (1951) and no doubt much farther, a careful search of the literature seems to indicate that the idea of programming (by means of the repeated use of an impersonal recording) the subconscious mind to respond directly to arbitrary commands from the conscious mind appears to be original with me and consistent with the conclusions of Barber (1974, 1976 and 1979) and Barrios (1969). My method helps a person to realize his or her potential in what appears to be an innate ability.

The frequency of the electronic metronome is not at all critical.

Seriously interested readers of this paper can obtain from me a colorimeter and a set of tapes by writing to me at Box 180, Marlborough, Connecticut 06447.

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Une alternative à l'auto-hypnose
Dans cet article l'auteur décrit un processus de conditionnement qu'il a personnellement développé et qui donne d'excellents résultats.

Eine Alternative zur Selbsthypnose
In diesem Artikel lege ich eine von mir entwickelte Bedingungshandlungsweise dar, die ausgezeichnete Resultate ergibt.

Una Alternativa a los Auto-Hipnosis

En este trabajo presento un prosedimiento de condición que he desarrolloado que está dando resultados excelentes.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(3)

Adventuring through the Looking-Lobe: Working with Undirected Visual-Mental Images [1]

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Abstract

Eliciting conscious experience of spontaneous imaging activity in the right middle (parietal) lobe of the human brain cortex is the basis of some of the most interesting and easiest to apply methods of speed-learning and learning-enhancement now under study.

This article provides three protocols--for individual, dyadic or partnered, and group use--with which wholly inexperienced persons may immediately and readily learn to elicit conscious experience at will of spontaneous visual-mental imagery that is charged with insight. The writers further provide instructions for eliciting effortless visual mental imagery in even the most obdurate non-visualizer. Whatever level of existing visual-thinking skills an individual possesses may be expected to improve rapidly through usage of such protocols.

Practice with any of these three procedures, by integrating the left and right sides of the brain, appears to improve permanently communications between the two sides. Not only are creativity and insightfulness thereby much improved, but levels of intelligence are also believed to be improved by use of such procedures, pending formal validation studies.

The right middle or parietal lobe of the human cerebral cortex appears to access and interpret information without effort, so well that an entire family of speed-learning and learning-enhancement methods is based upon it. Ongoing mental processes, such as spontaneous visual imagery, which appear to be present in everyone but noticed only rarely, can serve as bases for a quite remarkable enhancement and acceleration of learning.

Once one has gained conscious awareness of these ongoing mental

[1] This article adapted from an appendix in a new book in draft by Win Wenger, *Making Your Language a Very VERY Fine Bed of Sand*.

These structural statements about brain-function are over-simplified working hypotheses, pending more formal validation studies. However in the writers' research, training and practice, they have proven very useful.

The writers have combined a number of self-instructing courses on methods into one volume: *Your Limitless Inventing Machine*, 3rd Edition, 1979: Psychegenics Press.

processes, the student can induce his right parietal lobe to predict in good detail the ideational and information content of most courses of study such as physics, math, or psychology. One can as readily elicit prediction of the full kinesthetic experience of performing a skill very well, such as playing golf or the violin. By moving back and forth between experiencing this right-parietal prediction and conventional efforts at learning or skill-building, the student easily and rapidly integrates these two initially disparate realms of experience into one--with a fraction of the effort and time required to learn entirely by conventional means.

Nearly every program exploring frontiers of human potential involves some sort of directed visualization. Undirected images, however, appear to lead even more effectively to discoveries, inventions, solutions to problems, and an astonishing range of insights. Virtually all of creativity finds its source in the gestalts, impressions, and images thrust across by the broadly conscious regions of the brain to the verbal left-middle-lobe portion of the brain, the seat of consciousness. One can maintain that we have two language lobes, not just one. The left middle lobe speaks a language of words and is used in large part for our act of communicating with one another. The right middle lobe uses a language of images and impressions and appears to be our primary instrument for communicating within ourselves.

An example of this communication from within may be found in those highly creative people who, despite the virtues of regular scheduling and discipline and constant effort, have almost always done their best work in sudden, sustained bursts of intense activity. The "creative frenzy" is familiar to every field and discipline. Only with a contemporary neurological perspective has that creative urge become comprehensible: the artist or creator may be rushing to get the image or impression from the right lobe into full consciousness as quickly as possible before it dissipates. Whatever surface reasons the artist was giving for that incredible frenzy of endeavor, it may be an inwardly felt rush against time to capture and express as much of the inspired pattern as possible before it could slip out of reach of the left brain.

Directed imagery--in effect telling the right brain "what *is* " or what to do--is, of course, of great value, and virtually every program seeking to actualize or expand human potential pursues its use. Yet what our right brain may have to tell us from a more broadly based consciousness may well prove to be of much greater value still. Moreover undirected, spontaneous imagery is easier to access than directed imagery for the nonvisualizer.

The experience of spontaneous visual images is occurring right now in all of us, and to make it conscious for the first time is a much simpler task than that of teaching a non-visualizer conscously to see directed visual images. What makes spontaneous imagery so much easier is the fact that every minute or so one of the images comes through a little more strongly than the others--and almost catches our attention before slipping out of awareness. This almost produces in us certain non-verbal cues which are visible to outsiders observing us if they know for what to look. The following procedures for "Image-Streaming" by drawing attention to these cues, enable an inexperienced layman to perceive that response readily. Once the response is perceived, there is an easy way of reinforcing it and thereby training into full consciousness the ongoing stream of spontaneous visual images.

Three versions of "Image-Streaming" are explained. The first version for an individual is a form which, once one has learned where to look, can be practiced alone with a tape recorder. If one practices a few minutes such spontaneous imaging-and-describing each day for even two weeks, the quality of life and experience can be rewardingly transformed. If that does not happen, then one should drop the practice and go to something else. If that does happen, then one continues practicing "Image-Streaming" for a few minutes every day for continued improvement in communication between left and right brain.

"Image-Streaming" as a One-Person Process: The Main, Repeat Procedure

If you have previously observed your own spontaneous "pictures" while fully conscious and therefore "know where to look" to find them or once you have learned from one of the later protocols of this article, this is your main procedure. Otherwise, learn first from one of the later procedures and then return to this one. In this main procedure, set up a tape recorder or have secretary, friend, or some other person ready to listen. With that recorder or listener, go into "Image-Streaming" on your own as follows:

Without any idea or intention as to what is coming, simply close your eyes an "look in to see what images are playing right now." Describe aloud these images, whatever they are, to the listener or to tape recorder, with sensory-evocative word-picture details. The more sensory the description, the more truly it is derived from the right side of the brain. Do this for five minutes or so at a time if your images are coming.

Describe instead of explaining. Instead of saying, for example, "I'm looking at Aunt Millie's house," describe as "I'm now standing on an old, cracked concrete sidewalk about two feet wide, with ragged old boxwood on either side and thin grass which dies out a little further to my left under two old oak trees. About twenty feet from me the sidewalk reaches broad, wooden steps going up on a generous porch; both steps and porch are painted grey and the paint is peeling. The house itself is frame, wearing weathered white paint, old-fashioned deep green shutters over its two front windows..."

If this procedure works, then one practices it frequently--several times a day if possible, but at least once each day for two weeks.

If the above procedure does not yet work, then one needs to train with either procedure explained below.

"Image-Streaming" as a Two-Person, Training Process

The ingredients are a relatively calm, peaceful space with no interruptions for a few minutes, including phone interruptions, and another person. A tape recorder will not do for the training phase of the process. Another person is needed to watch for non-verbal cues and to reinforce them when they come. After one has learned "where to look," a tape recorder will be excellent for the above practice phase of "Image-Streaming."

The instructions are that one of the partners is the IMAGER--the one who will see the spontaneous images. The other is the SPOTTER--the one who will act as guide and as reinforcing listener. Decide which one is IMAGER and which one is SPOTTER. After completing this protocol one way, the roles should be reversed.

IMAGER : After reading this paragrah--close your eyes and keep them closed. Instead of deliberately looking for images which tends to suppress the spontaneous functions, simply work at breathing as rewardingly as possible. Breathe slowly, deeply, and continuously, making each and every breath feel as good as it is possible for a breath to feel. Make it all one continuous breath--whenever you are not breathing in, be breathing out and vice-versa, with no pauses in between. When an image comes, the first time or so, chances are that your SPOTTER will ask you what your image was before you notice that you even had one. When an image comes, describe it in sensory-evocative, word-picture terms, still keeping your eyes closed--so doing will further develop that image or bring up others. Start describing when you perceive an image, regardless of whether the SPOTTER has asked you for it. Start with any image regardless of whether you think it worth reporting--two dots moving to the left, a spot of color, a face, a picket fence or whatever.

SPOTTER: Look for attention-cues in IMAGER. What is an attention cue? A little sign of something almost catching IMAGER's attention. All of us evidence such signs, every few moments when a stronger image comes through, but this time these signs have been made easier for you to spot. The IMAGER's eyes are closed so there is nothing for them to track except internal stimuli. When you see *not eyelid* movement but the movement of the mound of iris and pupil discernible under the closed lids, the IMAGER is evidencing an attention-cue in response to an internal stimulus. Usually this response is to a visual image.

Also, whenever we watch something happening, or are forming an idea, we almost always hold our breath. The IMAGER has been instructed to breathe smoothly and continuously--when his or her breathing pauses, that is another major attention-cue.

When you detect the IMAGER evidencing an attention-cue--eye movement under the lids, a breathing pause, a slight muscle movement, or a change in facial expression, allow 2-3 seconds and then ask gently, "What was in your awareness just then?" You may have to ask this two, three, or even ten times before the IMAGER discovers that he just then was having some sort of image impression.

Now encourage or get the IMAGER to describe the image. Even if the image has fled, get the IMAGER to describe it from memory but in the present tense as if he were looking at it right now. And keep him describing it in sensory-evocative, word-picture detail. Once the description is flowing, encourage or keep it coming for at least five minutes, either of the same image or of different images as they occur, before concluding.

Ways to Further Develop the Image-Stream

To bring the image-stream up to a strength and richness where, for you and/or for your partner, discovery insights also begin to flow, the following are suggested:

1. "Get in touch"--find a surface in the experience to touch, a wall or tree trunk or whatever surface. Imagine touching it, feeling it. Describe the feeling of that contact in such a sensory-evocative, word-picture way that the listener also is almost forced to feel it.

2. "Panoramic Scan"--mentally look at and describe aloud what is directly in front in the scene. Then look at and describe what is to the left and to the right, then what is behind and overhead, then the surface underneath.

Describe also what other senses, of smell, taste, touch, space and movement, hearing, can be reported from this imaged scene.

Describe also what comes into view as one deliberately moves *through* the scene. Act upon, play with or interact with what is found there in the scene, and describe aloud both the action and the effects discovered from it.

3. Pay especially good attention to and describe in greater detail anything unusual, incongruous, bizarre, or unexpected that has appeared in the scene. Almost without exception, such oddities are the right parietal lobe's way of calling attention to key expressions of its important "message" or insight for which the entire spontaneously imaged scene is a metaphor. It appears that every element of the spontaneous image is richly charged with meaning as a symbol--the outstanding oddity is the right lobe's way of *italicizing* keys to what the whole thing is about.

4. "Reminder"--at what feels like an appropriate point, simply ask of what this or that in the experience is a reminder.

5. "Force-Fit" (without the force)--ask: "If this is somehow what the right middle lobe is saying is the most important thing to perceive right now: what *could* it actually be saying with this scene?"

6. "Thresholding"--in the otherwise spontaneous scene: have a door, a thicket, a wall, or some sort of experience of a momentary boundary on the other side of which is the key to the whole message. Then suddenly cross over that boundary and describe first impressions of what is found on the other side of the boundary.

Note: real problems often *are* experienced as symbolic barriers. Never let a barrier stand for long. If a thorny thicket barrier exists, imagine and experience a buzz-saw or a powered set of hedge shears, for example. After breaking through a concrete wall with drill, dynamite, Sherman tank, or bulldozer, one usually will discover the real problem the barrier represented and with it may come the actual solution to that problem.

7. "Inductive Inference"--open symbolic doors, curtains, or picture-books on different spontaneously presented scenes with the expectation or resolve that each scene will show you in an entirely different way, the same answer/solution as to what the "message" was from the preceding "Image-Stream" experience.

Only the person having the experience may interpret its meaning. Like the psychoanalyst's interpreting his client's problems--if the patient went in with one problem, he may very well come out with two problems.

With one type of spontaneous image, another factor is more important than its pregnant, metaphoric meaning, so much so that there might possibly be no hidden message in it. This is the "work-of-art" image. Some "image-stream TV channels" appear to be mainly or even entirely aesthetic. The right-parietal "looking-lobe" of the brain is, after all, the part of the brain most involved in the experience of beauty. If one is tuned to this "aesthetics channel," the aesthetic reward is so great that we suggest enjoying that for the time being instead of digging for metaphor.

Working With a Partner: How to Get Image-Perception Started When It Has Not Done So

If the "Image-Streaming" protocol has not launched your partner into perceiving visual-mental imagery within perhaps ten minutes or so, one can seek other ways to encourage the image-streaming.

If the partner experiences only a color, have your partner "breathe in" as much of that color as he or she can, with each breath, until imagery is detected.

If the partner experiences only color-blobs and/or abstract lines--which continue without any coherent images coming, for longer than five minutes, this may be an instance of psychic nearsightedness easily corrected. Merely begin instructing partner to "look just a little beyond those lines (or blobs) and see what is in view there now." ...then just a little beyond that, and a little beyond that, until coherent images can be glimpsed.

If the partner experiences glimpses only, begin having the partner describe the glimpse from memory in present tense as if he or she were still looking at it, describing "in sensory-evocative word-picture detail" even if some of it is being made up to fill in memory gaps or other gaps. More will come soon, if the eyes are continuously closed and such description pursued.

No picture, nothing has been reported by about one adult in 250. No one under 30 years of age has reported such a difficulty yet, so far as the writers know. The options then are to persist with the REM (rapid eye movement-under lids) and other attention-cues reinforcement querying even longer or one can get the partner to begin describing, in "sensory-evocative, word-picture detail," that "nothing." Or get the partner to remember and describe the last previous time he or she was looking at "nothing" in much the same way and feeling in sensory evocative word-picture description the *circumstances* .

One might also have the partner describe some remembered scene or dream, as in the first protocol of this book and go back and forth between that protocol and versions of REM-reinforcing "Image-Streaming" until truly spontaneous images do start appearing in partner's awareness. The partner can gently rub his or her eyes like a sleepy child and then describe the light and color blips which result from that pressure. One can use free association of thoughts to let the partner consciously discover why he or she needs not to see here and now, what purpose it serves not to see. The partner can imagine a closed door and mentally fling that door open and to report the first impression of what is on the other side of the door even if it's just an idea and now a perception. Describe in sensory-evocative, word-picture detail what's on the other side.

Attention-Cues in Other Sensory Modes

Eye-movement under the lids is usually in different directions for different kinds of stimuli. Most movement is in response to visual images, but a rapid movement almost straight down is usually a response to body sensation and is useful for training in athletes, ballet dancers and for purposes of physical rehabilitation. A rapid movement straight to the side is usually in response to an auditory stimulus although in most environments reserving auditory circuitry to internal stimulus is more difficult than reserving visual circuitry--in other words, that response will also accompany auditory stimuli which derive from outside. A slow drift upward diagonally to either side is usually in response to some sort of insight coming to the edges of awareness. Any of these may be reinforced just as can the visual realm.

Differentiation as to type of internal stimuli has not yet been observed by the writers for other kinds of attention-cue except eye-movement, although we have observed that the breathing pause is particularly noticeable when some sort of insight is coming to awareness.

Image-Streaming as a Group-Training Process

Highly rewarding in its own right, this is an invaluable experience even if all participants already are good visualizers. One needs the group; a leader selected from the group for this session, or the teacher or trainer; a chime, water glass or other implement whose agreeable sound can be easily heard above conversation.

Instructions (to be coordinated by leader) :

Arrange for the room or space to be reasonably calm and uninterrupted for at least a half-hour.

Participants pick a partner, three at a time can work together but two is preferred. Partners should sit very close to one another so they can easily hear and be heard once the experiment is underway and everyone is talking.

Agree that one sounding of the chime or water glass means a half-minute's notice: upon that signal, participants are to continue what they are doing at the time but be ready a half-minute later to stop and listen to the next instruction.

Agree that two or multiple soundings of the chime or water glass ends the current step and that all participants stop talking, even in mid-sentence or mid-word, to hear the next instruction.

Step-by-step instructions to be read aloud or paraphrased to the group by the leader:

1. "Please pair off as partners and decide between yourselves which one is to be Spotter and which one of you is to be Imager--I'll tell you what a 'Spotter' is and what an 'Imager' is and what each is to do in just a minute. Please pick your partner now and determine between you who is Spotter and who is Imager.

2. "Imager is the one who will be experiencing spontaneous images in just a few moments when we are underway. Spotter is the one who helps Imager tune in. After we do this process for a few minutes, everyone will reverse roles, Spotters' becoming Imagers and vice-versa, but that's a few minutes from now.

3. "According to the instructions I'm reading from, everyone images all the time but usually doesn't know it. Some images come through a little stronger than the others, almost to where you notice them--when they are *almost* catching your attention, *your* response is what lets your Spotter know that this is happening because you give little attention-cues like holding your breath, or your eyes track an image. Here's how we do it:

4. Imagers please now close your eyes and keep them closed until I later ask you to change places with your partner. Keep your eyes closed so that the only thing for your eyes to track on will be internal images. When your closed eyes are moving under the lids unintentionally, that lets your Spotter know that this is happening and your Spotter can then let you know something is happening. So that your Spotter knows what to look for, in a moment when I ask you, move your closed eyes back and forth a time or so--Spotter, look closely at the closed eyes of your Imager partner--Imager, please move your closed eyes under the lids back and forth a time or so. Make sure you see the difference between eyelid movements, which don't matter in this process, and eye movement under the lids, which is where the action is.

(When assured that all Spotters know what to look for in eye movement under their partner's lids, continue.)

5. Imagers--if you deliberately looked *for* images, if you are a beginner that deliberate effort could get in the way of the spontaneous responses we want. If you do see an image once we start, whether or not your Spotter has picked up your response, describe it. But unless and until you happen to see an image, instead of looking for one, please make

your breathing feel as good as possible, starting right now. Please begin breathing slowly, deeply, smoothly, and continuously. All Imagers, please, whenever you are not breathing in, be breathing out and, whenever you are not breathing out, be breathing in, no pauses in between, starting now, just make it all one smooth continuous breath and keep it going--and work at making each in-phase of that one smooth continuous breathe feel as good as possible.

6. With each out-phase in your breathing, just see how much, from all over, you can simply let go--keep on making each in-phase of this breath feel as good as possible, letting go as much as possible from all over on the out-phase--all as part of one deep, rich, smooth, continuous breath.

7. All Spotters: any time your partner pauses in his or her breathing, that's an attention-cue; he's watching something happening whether he knows it yet or not. Any time you see your partner's eyes move under the lids, that's an attention-cue. Any time you spot either of those cues, 2-3 seconds later gently ask your partner, "What was in your awareness just then?" The first time or so you ask this of your partner, he or she might not know--maybe even the tenth time--but sooner or later your partner will discover that, yes, he did see two orange dots off on the right or yes, he had for a moment been looking at a tree limb, or a daisy moving in the breeze, some sort of impression.

8. All Spotters encourage your partner, when any image comes, to describe it, whatever it is--even if it is just a just a flash and he has to describe it from memory, have him describe it in the present tense as if he were still looking at it, and have him or her try to make *you* see his image by his describing it in sensory-evocative word-picture detail--go with whatever comes up, Spotter looking for attention-cues and asking questions, Imager breathing rewardingly and continuously and whenever anything at all comes describing it...get underway *now* .

(Allow 3 to 5 minutes, depending on how the experience is running. Check around to make sure that each is working effectively but undermanage rather than overmanage; make sure you don't intrude on anyone's process. If you yourself, having learned to spontaneously image-stream from the individual version of this process above, simply look in and watch your own spontaneous images for a few moments while this group experience is running, your silent experiencing will help this group experience work even better and will affect the quality of your instructions to the group thereafter. One-half minute before ending this step, sound your chime or waterglass once and say, "Continue as you are doing but be ready a half-minute from now for and say, "Continue as you are doing but be ready a half-minute from now for further instructions."

(Ending this step, sound the chime or waterglass several times.)

9. "Good--thank you! Now please all Spotters become Imagers and all Imagers become Spotters, and proceed accordingly, beginning *now!* "

(After getting the process underway again, follow the parenthetical instructions above, which follow step #8. Again the half-minute one-chime warning. Finally, end this step, too, by sounding the chime or waterglass several times.)

10. "As easily as that, and with full recall, now please bring your awareness to here and now and become fully present, feeling very *good* !"

(When things settle, or at an opportune moment in the resulting hubbub, sound the chime several times with the amused observation that the exercise as such is still underway, and proceed to the next step.)

"In a moment I will ask you to switch to another partner for debriefing. When you debrief, take turns telling, in just one minute each, everything you just observed--but tell it in the *present* tense as if it is happening now, not the past tense as having just happened. Instead of saying, 'I such such-and-such,' say 'I am now looking at such-and-such, which is colored whatever with shadings of whatever, and its surface feels thus-and-so to me...' with the kind of detail which will help your new partner also see your experience--only this time, in the debriefing, tell it with eyes open instead of closed... Please switch to another partner now!"

(When everyone is re-partnered, sound chime several times, and say:)

"This is often the 'aha!' stage when you discover what you've really done and seen-especially in the processes after this one when we problem-solve or dig for an insight or an invention. Now in the next minute or so, take turns debriefing and being debriefed by telling your partner, in the *present* tense and with eyes open, about what you have just observed, and describing it in a sensory-image-evocative way which causes your partner to *see* your experience--begin describing now!"

(Continue to the assigned time, or until there is let-up in the intensity of debriefing conversations, then do the half-minute warning chime and then a half minute later the multiple chiming which winds up the step. Then say something to this effect:)

"Over time these spontaneous images will get around to showing you everything, even if there was no insight-content this time and maybe there was--practice can show us how to get insight-content from these images and get it readily."

"Now that you know where to look: from time to time through tomorrow and days and weeks to come, look in at least a little each day or evening on your own image stream, report what you see there to another listener or to your own tape recorder. It is important to get in at least ten to thirty minutes of this image-streaming for a while, looking in on your images and reporting them to your tape recorder or to a listener. Perhaps no other activity than this one, 10 to 30 minutes each day of looking in on your spontaneous images and reporting them to your tape recorder or to a listener, in sensory-evocative word-picture language, has a great impact on increasing your intelligence, your insightfulness, and your creativity. Because you have not programmed what to see but are just taking the images as they come, you are taking almost purely right-brain activity, and, by describing them and processing them through your verbal left brain, building connections between the two sides of your brain. The wide-ranging intelligence of your right brain, which takes everything into account and accesses everything available, becomes more and more available to where you are mainly conscious from, your left brain. The precise, analytic, articulate intelligence of your left brain becomes more and more available to your sources of inspiration and insight."

"Your most useful tool, since a live partner is not constantly available but your tape recorder is, is to set up your tape recorder at bedside or couch, with a thumb-switch hand-held microphone for convenience and for economy of tape-recording time. It says here, and I quote: 'Practice every day, this taping of the ongoing descriptions of your spontaneous image stream. By doing so, you not only rapidly enhance your intelligence but become informed through the contents of your observations, in many important matters and insights which your left-brain thinking by itself, could perhaps never have gotten to.'"

Follow-up Group Procedure

Some general group exchange of reactions and observations is a natural response to the above or similar experiences. If you can guide this discussion into defining some interesting points, questions, or issues, a good procedure is to stop right in the midst of that point, issue or question, and instruct members to "look in on (their) image-stream to see what is playing there now in this particular context." See if anyone comes up with any visual experiences which appear to be relevant--especially see if anyone comes up with a visual image which seems to be an insight-metaphor for the issue context.

Here are some other questions which may be worth investigating in this manner, depending on the feel of the group:

What other practical applications can be found for the Principle of Description: "What you describe aloud while observing it, you discover more about?" What are some of the compared uses and merits of directed and undirected imagery? If anyone still has not "gotten picture," why not and how best can that skill be turned on? What need is being supported by this inability? What would be some better ways to satisfy the same need? What else will bring on this person's ability to "get" pictures?

For this particular discussion, unless the leader of this group is a qualified trainer or psychologist, restrict the personal references to people's reporting their own visual images elicited in response to this question, allowing only picture-images to be reported and leaving it to the individual in question to get his own meaning from those reported images. Moreover, suggest that everyone take these and other such results with a grain of salt. Sometimes the feeling of certainty naturally comes with an apparent insight-interpretation of such image-metaphors, but that feeling is only a feeling and not necessarily a proof that the interpretation is correct. All of this is but another among many means by which one may add to his or her stock of available information and insights in treating any question.

Just how much information and just what information is available through the right brain? What are some of the further implications? Traditional creativity and problem-solving methods dig up all the left-brain information they can on a question, then let it germinate--such as "sleeping on the question to wake up with the answer" to allow the right brain to integrate and come forth with the answer. So: what value is there to "priming the pump" by getting some information first into the left brain?

As you can see, especially if you have done an "image-stream pause" on each question in mid-heat, you have acquired key skills which can be useful in a general context far beyond the specified purposes of this particular group. Getting unprogrammed, spontaneous images, relatively unbiased by left-brain expectations--few gifts are more valuable than that, a goal we strongly suggest training into reliable and frequent use.

In this and related fields, the biggest occupational hazard has been that of finding the answer. Every answer, and every method, is only a stepping-stone to something better. If you have a good problem-solving method, the best problem to work it on it the problem of how to create a better problem-solving method. Rejoice in the ease and effectiveness with which you can now find answers to questions and problems— but please remember: None of these, and nothing we have said here, is THE Answer!

We strongly suggest that to develop this valuable faculty, you and your co-participants make a game out of rounding up long lists of wildly diverse questions and problems, check out each other's images as answers to each question or problem. See if you can begin to find out what kinds of problems and questions this works best for and which, if any, give it difficulty. Make this process into a high entertainment for you, and you will at least have this entertainment, entirely aside from whatever practical values you can milk from this.

Whether or not you are already to the point where you can simply look in on any question, see the image which is answer to it, and interpret that image into workable answer, you can readily advance on that goal, or if you have it, improve and extend that range of effects for yourself, if you pursue these three things:

1. Practice this spontaneous visual-thinking skill, as described--especially a few minutes every day of image-stream with a tape recorder.

2. Practice objectively describing the sensory detail of what you are observing with your mind's eye, to avoid biasing with left-brain expectation until enough of the experience is developed to process it analytically and with explanations--i.e., interpret it. Persist with particular experiences long enough to win through to the aha! so that you pick up some of the knacks of interpretation. Learn to readily and comfortable "read the metaphors" which are part of the highly individual language of your

right brain.

3. Practice or learn to get these images generated as specific answers to specific contexts and free of left-brain bias, full of surprises. The more surprising, the likelier the validity.

References and Comments

Bibliography was not supplied by the writers since this paper arose from their own research, training, and practice. The writers express indebtedness to Maimomedes Dream Laboratory, whose original work in REM (Rapid Eye Movement) dream research laid some of the foundations for the present study. The writers have also published various texts for developing and employing visual mental imagery for a range of purposes--notably *Your Limitless Inventing Machine* as cited earlier, Third Edition, 1979, Psychegenics Press, and *Beyond O,K.--Psychegenic Tools Relating to Health of Body and Mind* (Psychegenics Press, 1980). In addition, teachers interested in working with related effects involving the right cerebral cortex with processes of learning, may wish to peruse the methods text by Betty Edward, *Drawing on the Right Side of Your Brain* (Los Angeles: J. P. Tarcher, Inc., 1979).

Persons wishing to explore *directed* visual mental imagery from many diverse perspectives are encouraged to pursue the fine introductory text of methods by Adelaide Bry, *Directing the Movies of Your Mind* (New York: Harper & Row, 1978). She presents protocol-instructed exercises from many diverse programs and disciplines, with sufficient source information to allow the reader to follow up whichever program appears to be most appropriate for him or her.

Lastly, the Spring 1979 edition (Vo. XXIII, No. 1) of *The Gifted Child Quarterly* presents a most rewarding concentration of studies interrelating imagery, the right cerebral hemisphere, giftedness, and education.

Une aventure de l'inconscient: le rêve éveillé et la spontanéité des images mentales

La capacité de créer spontanément des images mentales dans l'hémisphère droit du cerveau et de faire ensuite l'application consciente de cette capacité de visualisation à l'apprentissage nous mène à la considération des méthodes qui favorisent l'apprentissage accéléré et qui développent la conscience et l'intelligence de l'étudiant. Ces méthodes (dont il est question dans cet article) sont non seulement intéressantes mais aussi faciles à apprendre.

Dans cet article, les deux auteurs nous fournissent des méthodes et des techniques pour faciliter l'apprentissage chez l'individu, chez le couple et chez les membres d'un groupe. En suivant les instructions des auteurs, même les débutants en ce domaine et ceux qui résistent en général à faire des exercices de visualisation n'auront aucune difficulté à créer spontanément ou consciemment des images mentales. En même temps, celui qui a de l'expérience dans le domaine de la visualisation trouvera que sa capacité de créer des images mentales sera améliorée.

Les trois méthodes dont il s'agit dans cet article sont basées sur l'intégration des deux hémisphères du cerveau, sur ce qu'on pourrait appeler une véritable communication entre l'hémisphère gauche et l'hémisphère droit. De telles méthodes améliorent non seulement la créativité et l'intuition mais aussi la capacité intellectuelle de l'être humain.

Abenteuer mit dem Schauenslappen: Arbeit mit ungeführten sichtbar-geistigen Bildern

Die Hervorlockung von bewußtem Erlebnis der spontanen Bildertätigkeit im rechten mittleren Gehirnlappen der menschlichen Gehirnrinde ist die Basis von einigen der interessantesten und leicht verwendbarsten Methoden des beschleunigten Lernens und der Lernerhöherung, die man jetzt untersucht.

In diesem Artikel werden drei Protokolle für den Gebrauch eines Einzelnen, zweier Menschen oder einer Gruppe ausgestattet. Damit können ganz unerfahrene Leute sogleich und leicht lernen, nach Belieben bewußtes Erleben von spontanen sichtbar-geistigen Bildern hervorzulocken, das mit Einsicht geladen ist. Die Verfasser geben weiter Anweisungen an, womit man mühelose geistige Bilder in einem Menschen hervorlocken kann, der nur mit Schwierigkeit sich etwas vor Augen stellen kann. Es ist zu erwarten, daß die sichtbar-denkenden Fähigkeiten des Individuums sich schnell durch den Gebrauch von solchen Protokollen verbessert werden.

Es scheint, daß Kommunikation zwischen den zwei Seiten des Gehirns durch Übung mit irgendeinem von den drei Vorgehen wegen Integration der linken und rechten Gehirnseiten verbessert wird. Dadurch werden nicht nur die schöpferischen Kräfte und Einsichtsfähigkeit verbessert, man glaubt auch daß die Intelligenzstufe durch den Gebrauch von solchen Verfahren verbessert wird, dies müßte jedoch durch formelle Gültigkeitsstudien bestätigt werden.

Las Aventuras a Traves del Lóbulo Parietal: Experimentando con Imágenes no Dirigidas Visuales-Mentales.-

La extracción de la experiencia consciente, de la actividad en el lóbulo (parietal) derecho de la corteza del cerebro humano es la base de uno de los métodos mas fáciles, interesantes y aplicables del aprendizaje rápido y aprendizaje-intensificado que estudiamos.

Este artículo proporciona 3 protocolos:para el uso individual, compañero o grupo - para que la gente sin experiencia aprenda a voluntad a evocar inmediatamente experiencia consciente de formaciones espontáneas visuales-mentales con perspicacia. Ademas los autores proporcionan instrucciones para evocar sin esfuerzo imágenes visuales mentales para los que tengan problemas en la formación de imágenes mentales. Cualquier que sea el nivel de habilidades visuales-reflexiones que posee alguien, el mejoramiento por medio de estos protocolos es notable.

La práctica con uno de estos procedimientos por la integración de los lados derecho e izquierdo del cerebro, parece mejorar permanentemente la comunicación entre ambos lados.

Aunque falta un estudio de validez formal, se cree que el resultado de estos procedimientos demuestra el mejoramiento de la creatividad, la perspicacia y los niveles de inteligencia.

J. of the Society for Accelerative Learning and Teaching, 1981,
6(3)

The Relevancy of Psychosynthesis in Higher Education

Alexis du Pont de Bie

Abstract

The author reviews briefly the use of psychosynthesis in improving education. Psychosynthesis aids and guides people in developing creativity, imagination and intuition that are largely neglected in education today. A core bibliography in psychosynthesis is included.

The word "relevant" in *The American Heritage Dictionary of the English Language* is defined,

> adj. 1. Related to the matter at hand; to the point; pertinent; 2. Linguistics. Serving to distinguish one phoneme from others, distinctive. (Medieval Latin *relevans* from Latin, present participle of relevare, to lift up relieve.)

Similarly the word "education" is described partially as follows:

> n. Abbr. ed. educ. . The act or process of imparting knowledge or skill . . .

and with that I link the word "educe" whose Latin roots "ex-", out + "ducere," "to lead" means really "a bringing forth," which thereby acknowledges that there is something important within that *ought* to be brought out!

In the title of this article I started with two words that are part and parcel of my work, namely Relevant and Education, but more than that they remind me of a quote from Dr. Paul Tournier (1957) in his book, *The Meaning of Persons* . In part one he says

> . . .who am I, really, myself? It is a question which haunts each one of us, whether we are aware of it or not. It is there in every consultation I give. It is there for the man who comes to see me and for me as well. This frank and moving contact with people is the very substance of my professional life. It is for me, quite as much as for the man who consults me, a means of discovering myself. I seek to attain it not only in my consulting room, but all the time, in every meeting with another person in my own family, with my friends, in conferences, and on holiday!!

What Tournier says with regard to his practice of therapy applies, in my mind, urgently to higher education around the world.

Let me carry these foregoing thoughts further. Quality education is reaching new lows. Apart from inadequate funding which is not the focus of this article, the temperament of institutions of Higher Learning is one of several types, i.e. disillusionment, disparagement, despair and laissez-faire. There are adequately researched reasons for the current temper of International Higher Education and not the subject of this article.

So let me for a moment step back, dis-identity from the problem and walk with my reader through some avenues via psychosynthesis that I feel will lead to practical vistas thay may help the educators in their search for Relevancy and Quality within the marvelous craft of teaching.

As a teacher, educator, facilitator in the process of imparting knowledge, psychosynthesis addresses the psyche of the individual. The use of dream analysis and guided daydreams, symbolic visualization and its concommitant experiential verbalization are of tantamount importance.

The reason is two-fold, first, it is an inherent belief on the part of the practitioner that his or her students possess rich, inner material whose moment has come to be judiciously freed and explored.

Second, the individual in search of Higher Education and perhaps desirous of later becoming an educator, needs to have the inner fabric of his or her psychic tapestry explored and evaluated. There is a veritable pool of resource material to draw from if one wants to, which brings me to my next point about Psychosynthesis and Higher Education. The higher the level, the harder the work and the discipline required to achieve success. Dr. Assagioli adequately supplies the techniques to achieve a balanced and harmonious personality fuelled by a motivated and determined will.

What is the relevance of a strong will in Higher Education? Current practices in education don't merely place external constraints on the individual, they slip into the very core of the individual and manifestly hinder the spontaneous process of curiosity and creativity that so longs to be allowed expression. However, if an individual is taught by someone with a strong sense of what the East calls The Universal Will or better yet, Maslow's (sense of) "The Farther Reaches of Human Nature"; then he or she will grippingly acquire that which they seek to learn and will miraculously retain it in a manner never to be forgotten. In essence I am saying that psychosynthesis enables one to impart knowledge to another person in an almost "I--Thou" relationship that not only makes relevant what is to be learned, but more importantly, makes the *person* relevant.

Psychosynthesis aids and guides an individual towards developing the functions such as imagination and intuition that have largely been neglected in early education.

At this point, I would like to take a brief look at some of the promising and rewarding literature that is current and will help the reader further in his or her researches. It also proves that the picture isn't totally bleak!! Professor Toni W. Linder, at the University of Denver, Colorado, wrote an article in the *Journal for the Education of the Gifted* entitled, "Organizing a Course in Creativity: Theory and Practice." The bibliography for this article will serve handsomely to illustrate what literature should be used as a relevant core in teaching creatively and humanistically. It follows under Bibliography.

In conclusion, from correspondence around the nation and abroad this author finds substantive use of psychosynthesis in personal growth situations which dramatically enhance and nurture the creative element of the individual. It remains for those in the craft of teaching to imbue their work with a relevant sense of the quality inherent in the emotional psychic structure of their students and which they recognize as being *as* important as the subject matter being taught.

If this is not accomplished or ignored, the present and future generations will suffer what has already been heralded and in some instances has occurred.

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L'importance de la psychosynthèse dans l'éducation supérieure
L'auteur nous donne un exposé succinct de l'utilisation de la psychosynthèse dans l'amélioration de l'apprentissage à un niveau supérieur. La psychosynthèse facilite, chez l'étudiant, le développement de la créativité, de l'imagination et de l'intuition; comme on le sait, l'enseignement d'aujourd'hui a tendance à négliger ces aspects de l'être humain. Cet article comprend une bibliographie des principaux écrits traitant du sujet de la psychosynthèse.

Die Erheblichkeit der Psychosynthese in der höheren Ausbildung
Der Verfasser bespricht kurz den Gebrauch von Psychosynthese in der Verbesserung der Ausbildung. Psychosynthese hilft den Menschen schöpferische Kräfte, Phantasie, und Intuition zu entwickeln, die heute in der Ausbildung so sehr vernachlässigt werden. Eine Bibliographie von Psychosynthese ist eingeschlossen.

La Aplicabilidad de Sicosíntesis en la Educación

El autor analiza brevemente el uso de la sicosíntesis en cuanto al mejoramiento de la educación. La sicosíntesis ayuda y orienta para desarrollar la creatividad, la imaginación y la intuición que son mas bien descuidados en la educación de hoy. Se incluye una bibliografía de sicosíntesis.

J. of the Society for Accelerative Learning and Teaching, 1981,
6(3)

Applying S.A.L.T. to Elementary School Spelling Instruction

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Abstract

This study assessed the effectiveness of the SALT (Suggestive-Accelerative Learning & Teaching) method as applied to the teaching of spelling to elementary pupils (N = 275). Four of six elementary teachers who applied SALT techniques in their spelling classes achieved statistically significant gains vs. their controls, one approached accepted significance standards ($p < .08$), while the remaining teacher showed no difference vs. the control class. Attitude measurement (3 Brooks Student Questionnaire scales) indicated no differences in a majority (11 of 18) of comparisons, with a slight (4 to 3) plurality of the significant differences favoring the controls.

Introduction

The six elementary teachers who participated in this study were part of a larger group of central Iowa public school teachers who responded to a request to learn a new teaching method. Two of the spelling teachers were part of a group which took a 120-hour training workshop at Iowa State University during the summer of 1976, while the other four were trained in a 40-hour abbreviated workshop covering the basic principles of SALT during the fall of 1976. The first year of SALT application was considered a pilot project by the experimenters, while the second year (1977-78) was the anticipated payoff period. The spelling teachers performed as expected, demonstrating solid gains during the second project year.

Some preliminary explanation of the teaching techniques employed in this study may be appropriate for those members of this audience who

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This study was supported financially under a research grant from the Iowa Department of Public Instruction and administered through Heartland AEA-11. Grateful appreciation goes to the many people who helped on this project.

are unfamiliar with methodology described herein.

George Lozanov, an M.D. currently doing educational research in Sofia, has developed an instructional technology (suggestopedia) based on the use of suggestion as a teaching tool. In this method, all aspects of the classroom atmosphere (teacher verbals and non verbals, decor, materials, activities, and even pupil interaction) are orchestrated for the purpose of achieving maximum positive impact upon students. SALT is the Americanized version of Lozanov's work.

An important underlying suggestopedic principle is this: the mind creates and achieves according to the nature of the assumptions it accepts as being true. Limiting belief systems (learning is hard, school is boring) cause the mind to operate at far less than its true capacity. Expanded belief systems (learning is interesting and fun; I can accomplish more than I ever thought possible) in turn allow the activation of unconscious mental processes which produce unexpectedly powerful results.

Lozanov believes that unconscious mental activity can be brought into play through the power of suggestion. Suggestion is considered to have taken effect only when the end result is the demonstration of some heretofore unactivated mental reserve, such as learning at a much faster rate than before.

SALT teaching techniques include integration of the fine arts (music and drama) into the practitioner's teaching style, together with physical and mental relaxation exercises which enable students to prepare their minds to receive lesson material, motivation, positive expectation, and the use of visual imagery (forming mental images related to lesson material) are the three student variables upon which suggestion impacts in order to engage all of the mind's capacities in the learning task.

Review of Literature

Many experiments (not necessarily focusing on elementary school spelling) cite the importance of the three experimental variables under consideration in this study. Since focusing on these variables consitutes a generic approach to teaching, one that is not limited to spelling per se, the reader should realize that the experimenters were attempting to refine an overall instructional strategy based on newly articulated principles of learning theory and to demonstrate its efficacy through adaptation to spelling.

The thread of North American educational thought most closely resembling Lozanov's is that of Robert Rosenthal (1968) whose "Pygmalion Effect" metaphor has become a commonly accepted description for studies of ways in which a teacher's unconsciously generated cues may effect a pupil's feelings about himself and thus his academic performance.

Among Rosenthal's many experiments was one in which teachers were given the names of children in their classes who "could be expected on the basis of test scores" to show remarkable gains during the coming year. These experimental children (though they were randomly selected and were certainly not special) showed more than a four point gain in IQ during eight month's time over a control group.

Rosenthal (1974) explains such results in the following manner:

> "...People who have been led to expect good things from their students, children, clients, or what-have-you appear to create a warmer social-emotional mood around their special students, give more feedback to these students about their performance, teach more material and more difficult material to their special students and give their special students more opportunities to respond and question."

SALT practitioners have as their goal the operationalization of the Pgymalion Effect. That is, they are trained to create, maintain, and intensify the effects of positive expectations.

Much research has focused on mental imagery as an aid to learning. The creation of mental images, i.e., the ability "to see with the mind's eye", has been described in several ways: visual memory, mental imagery, inner perception, and visualization. In each case the terms refer to a process by which a person sees flowing pictures on a mental screen inside his head. The images float by on the screen, just as if a movie was being shown.

Erdelyi (1977) has demonstrated the growth of recall over time when mental images are attached to stimulus material. His research, which shows an increase in magnitude of memory growth for time intervals up to a week, is in direct contrast to the commonly accepted Ebbinghaus forgetting curve which shows that memory for nonsense syllables inevitably decreases with time.

Ruth Strang, in *Reading Diagnosis and Remediation* , cites several studies regarding the importance of imagery to memory. As quoted by Dean Held (1976):

> "Fourth grade social studies students were given practice in assignments containing vivid descriptions whereby they had to describe, in writing, mental pictures created and do illustrations about them. The students who had imagery practice consistently did better on memory tests than control groups not having this practice."

Doris Johnson and Helmer Myklebust (1964) in *Learning Disabilities: Educational Principles and Practices* , express their opinion that imagery has in the past been neglected in education and psychology. They consider imagery to be part of the memory process: when a student recalls sounds, he also comes in contact with the visualizations associated with those words. The inability to relate sounds to imagery is believed to hinder the memory process.

Several North American SALT researchers have combined the power of suggestion with visual imagery in successful public school experiments. Most notable have been Gritton and Bordon (1976) for junior high science, Prichard and Taylor (1976) in elementary school remedial reading, Caskey (1976) in several areas, and Schuster, et al. (1976) who have compiled a teacher training manual based on these principles.

Method

The application of SALT to elementary school spelling instruction went as follows:

1. Physical exercises, mostly muscle tensing and relaxing.

2. Mind calming with music, a time in which students relaxed and immersed themselves in soft music while they visualized themselves first in a safe, calm place away from the classroom, then saw themselves learning lesson material quickly and easily. After 3-5 minutes of this activity, the students returned to their usual, attentive state of awareness.

3. Lesson presentation: the teacher introduced the day's spelling words, using a variety of resources to make the lesson interesting... songs, related stories, funny sentences, and audio visual overhead displays from which students copied the new words as they were presented. Students were encouraged to make whatever visual, imagistic connection they could between a word and its spelling.

4. Mind calming with music, a second time during which the students relaxed, immersed themselves in music and listened passively, this time while the teacher reviewed the day's lesson as follows: pronounce a spelling word, spell it, use it in a sentence, repeat pattern for all new words. An example: 1. hat 2. h - a - t 3. The woman wore a new black hat.

Students were encouraged to visualize the spelling of the word (see themselves writing it on the blackboard) and also the "action content" of the sentence.

5. Students practiced using the spelling words with workbook materials.

Results

Each SALT teacher was paired with a control teacher. Pre and post achievement testing was conducted as follows: A list of words common to the textbooks used by each experimental/control pair was compiled, then randomly divided into two lists (alternate forms) for pre- and posttesting purposes. Test length ranged from 25 to 40 words, depending on student grade level (25 words for first graders) and the number of textbook vocabulary words in common for a particular teacher pair. The Brooks Student Questionnaire (BSQ) was administered as a measurement of attitudinal change. Pre- and posttesting took place in September and May, respectively, with the exception of teacher #4 (first grade) and her control. The first grade achievement pre-testing took place in January, while there was no BSQ pre-test data gathered, posttesting took place in May along with the others.

An analysis of covariance design was used (with the dependent variable pretest as covariate) to test the treatment (SALT vs. control) effect. The dependent variables were the spelling achievement score and the three BSQ scales: student-teacher affective relations, perceived school stress, and school-learning orientation. Each student's posttest score was adjusted for initial pretest differences in order to compensate for initial group differences, with the exception of the first grade class for which an analysis of variance was performed on the BSQ posttest results.

Table 1

Average Adjusted Scores by Teacher and Treatment

Grade, SES	Teacher No.	N	Spelling Achievement	Affective Relations	School Stress	Learning Orientation
3, Mid	1, SALT	20	38.21	26.64	44.36	22.48
	Control	23	33.61	20.10	49.77	20.54
	Signif.		++	--	-	
3, Low	2, SALT	22	22.83	21.33	46.25	18.95
	Control	21	21.71	22.38	47.27	20.55
	Signif.		+	+		
6, Low	3, SALT	21	16.94	26.97	47.84	25.02
	Control	33	14.89	26.49	45.53	24.30
	Signif.		+	M	M	
[illegible]ow	4, SALT	14	22.61	27.38	42.88	18.63
	Control	16	19.34	26.56	37.78	20.44
	Signif.		*,M		*	
5, Low	5, SALT	26	23.57	27.64	43.21	26.30
	Control	45	20.76	25.65	47.46	24.12
	Signif.		++		-	
5, Mid	6, SALT	20	24.28	22.73	50.44	23.59
	Control	14	25.11	21 31	53.16	20.52
	Signif.					-

++ Significant ($p < .01$) in favor of SALT; --significant ($p < .01$) in favor of control.
+ Significant ($p < .05$) in favor of SALT, - significant ($p < .05$) in favor of control.
* Significant ($p < .08$) in favor of SALT; M significant ($p < .05$) in favor of SALT males.

Table 1 indicates the results of the data analysis. Two SALT teachers produced significant achievement gains vs. their respective controls at the .01 level; two more SALT teachers produced gains significant at the .05 level, while another SALT teacher's class achieved gains which approached significance ($p < .08$) and showed a treatment/sex interaction in favor of SALT males, significant at the .05 level. Thus, five of six SALT teachers were considered to have successfully applied the experimental treatment.

The BSQ results were much less clear. Of 18 possible comparisons (6 experimental/control pairs, 3 scales) 11 indicated no difference. Of the 7 significant differences, a slim 4-3 majority favored the control classes. Thus no trend was firmly established in favor of either teaching approach.

Discussion

In one sense this study confirmed previous conclusions drawn from other SALT experiments. The use of suggestion to increase student motivation and expectation together with the technique of relating visual imagery to lesson material proved to be successful in increasing achievement scores in five of six comparisons. The one teacher who did not produce significant results allowed an observer to visit her class only once during the year, and was rated lowest among the SALT teachers in her command of the SALT cycle. Moreover, her comparison teacher may have been a superior teacher without SALT. In April, the project staff considered excluding her class from the final data analysis, but decided to continue with posttesting, even under conditions where it was not sure that the experimental treatment was being properly carried out.

In another sense, however, the study failed to produce anticipated results. No significant trend was established in terms of affective change, even though such comparisons have favored SALT-taught classes on many previous occasions. The inclusion in this study of several experienced, capable control teachers who habitually develop good relationships with their students may well be the reason for this result.

On balance, however, the authors feel that the study of the use of suggestion as a classroom teaching tool is proceeding on schedule through its developmental stages. Wider use of such techniques in the public schools is strongly recommended.

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L'application de SALT à l'enseignement de l'orthographe au niveau de l'école primaire

Dans ce projet de recherche on a évalué l'efficacité de la méthode SALT en ce qui concerne l'enseignement de l'orthographe aux élèves au niveau de l'école primaire (N = 275). Des six instituteurs qui ont utilisé des techniques de SALT dans leurs classes, quatre ont vu une nette amélioration des résultats vis-à-vis leurs groupes de contrôle. Dans la classe d'un de ces instituteurs, il n'y a eu qu'une légère amélioration des résultats ($p < .08$); en ce qui concerne le sixième instituteur, il n'y avait aucune différence entre sa classe et le groupe de contrôle. Lorsqu'on a mesuré l'attitude des étudiants d'après le questionnaire Brooks, on a trouvé qu'il n'y avait aucune différence dans la plupart des comparaisons (11 sur 18); cependant, il y avait une légère majorité des différences significatives (4 versus 3) qui favorisaient les groupes de contrôle.

Die Verwendung von S.A.L.T. auf Rechtschreibungsunterricht in der Volksschule

In dieser Studie wurde die Wirksamkeit von der SALT (Suggestive-Accelerative Learning & Teaching) Methode auf den Rechtschreibungsunterricht für Volksschüler untersucht (N = 275). Vier aus sechs Volksschullehrer, die im Rechtschreibungsunterricht SALT Techniken verwendeten, erzielten einen statistisch bedeutungsvollen Gewinn im Vergleich zur Kontrolle, der fünfte kam bedeutungsvollen Normen nah ($p < .08$), während der sechste Lehrer keinen Unterschied gegenüber der Kontrollklasse aufzuweisen hatte. Die Messung der Einstellung (3 Brooks Student Questionnaire scales) zeigte auf keine Unterschiede in einer Mehrzahl (11 aus 18) von Vergleichen mit einer geringen (4 zu 3) Mehrheit der bedeutungsvollen Unterschiede zugunsten der Kontrollen.

Aplicando S.A.L.T. a la Ortografía en la Escuela Primaria

Este estudio estima la eficacia del metodo S.A.L.T. (Aprendizaje y Ensenañza) en su aplicación a la enseñanza de ortografía a unos alumnos de primaria (N=275). Cuatro de las seis maestras, quienes emplearon las técnicas S.A.L.T. en sus clases de ortografía, lograron beneficios significantes contra el grupo de control; un maestro realizó casi los estandartes aprobados (p .08), mientras que el otro no realizó ninguna diferencia contra el grupo de control. La medida de la actitud (3 Brooks Escala de Preguntas para Estudiantes) no indicó diferencias en una mayoría (11 de 18) de comparaciones, con una pluralidad escasa de las diferencias significantes a favor del grupo de control.

J. of the Society for Accelerative Learning and Teaching, 1981,
6(3)

Mental Imagery in Early Cognitive Development

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Abstract

This study examined the use of mental imagery activities in early concept learning with kindergarten children. Data were collected from children in three public school kindergarten classes. Children in two experimental groups were provided 20 - 30 minute activities in concept acquisition for a six-week period. One experimental group included mental imagery exercises with one class designated as the Control Group for comparative purposes. Using the Cognitive Abilities Test as the evaluative instrument, it was found that children who experienced mental imagery exercises achieved higher levels of concept formation than children who did not have mental imagery experiences. These differences became more marked when age and intelligence were held constant.

In the past decade there has been renewed interest in the once popular topic of mental imagery, the mediating process used by individuals to abstractly represent and internalize unseen concrete objects or concepts to be stored for future retrieval. Recent studies (Piaget and Inhelder, 1971; Pavio, 1970; Bugleski, 1970; Varley, Levin, Severson and Wolff, 1974), have shown the importance of mental imagery in facilitating the learning process, yet most studies have focused on adults and children aged seven years and older (Pavio, 1970; Varley, Levin, Severson and Wolff, 1974). Although a few studies have involved younger, preschool children, these investigations have generally centered on the association of two unrelated objects through the use of visual imagery, concentrating on testing the memory of Ss, and not on concept development.

This research study was carried out in order to determine whether increased early cognitive development in preschool children can be accomplished through mental imagery activities. It sought to establish the relationship of mental imagery to learning and to determine, by means of an experimental investigation, the extent to which mental imagery influences the acquisition of cognitive skills in five-to-six year old kindergarten children.

Method

Subjects : Data were obtained from 63 children who were students in a school district in a city with a population of 175,000. Subjects were all from urban areas and lower socio-economic families. All subjects were members of three existing kindergarten classrooms at the time of the study and were randomly assigned as Experimental Group I, Experimental Group II, and a Control Group. While there was an individual age range of over 12 months among the classes, no significant differences were found among the mean age in months for the three groups or between any pairs of groups. No significant differences in the sex distribution occurred for the three groups. There were significant differences in the distribution of the ethnic backgrounds of the groups (Chi-Square= 46.52, significance level= .001). While Anglo, Black and Mexican American children were enrolled in the three classes, there was a higher percentage (66%) of Mexican American children in the class designated as Experimental Group I, and a higher percentage (63%) of Anglo children in the class designated as the Control Group.

Treatment : This study applied an experimental design utilizing two experimental groups and one control group. The Cognitive Abilities Test (CAT) was administered as the evaluative instrument in a pre-test, post-test control group design. Dependent variables were the various scores as measured by the subtests of the CAT, and independent variables included, treatment, age in months, sex, and ethnic background.

General treatment procedures for both experimental groups were identical, with only the addition of a specific mental imagery activity for Experimental Group I. Groups of 8 to 10 children in the experimental groups were taken from the regular classroom to a private room for 20-30 minutes a day, five days a week, for the six week project. The researchers personally conducted all of the sessions in order to eliminate instructor variables, and also to provide consistency. The same amount of time was spent with both experimental groups and special effort was devoted to avoid researcher bias between the groups. A number of sessions of both groups were videotaped and reviewed by the researchers and independent viewers to insure similar content and coverage of material. The materials and concepts included were not dissimilar from those normally found in a kindergarten classroom. The types of concepts, such as sequencing and sorting, were learning skills with which the children were familiar. Daily activity lesson plans, such as the following, were used to provide a common structure for each group. One new concept, or a review of a previously covered concept, was presented each day so that the children focused on one topic rather than several.

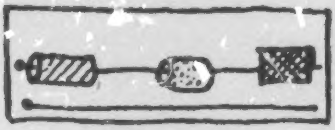
SAMPLE LESSON PLAN

Bead Patterning - Complete Pattern Card

Activity : Copying a pattern from a complete bead pattern card--same size--complete pattern
Grade Level : Kindergarten
Prerequisites : Previous experience with alike/different activities
Behavioral Objectives : To view a card containing a complete bead

pattern in the actual size of the beads and copy the pattern on the card by stringing beads on a string to duplicate the pattern.

Materials : 1. A bead pattern card depicting an exact pattern that can be duplicated in a one-to-one ratio. A black line should be drawn at the bottom of each card indicating to the child the correct way to turn the card. The pattern should show a line running through the beads to represent the string, with a knot to the left of the first bead, indicating which bead should be placed on the string first.



2. A box containing the exact amount of beads to duplicate the pattern displayed on the card and a string on which to string the beads.

3. Small felt mat for the child to work on to prevent the beads from rolling around.

4. Crayons and small squares of paper.

5. Blindfold.

Presentation : 1. Place the box containing the loose beads, string, felt mat, and the bead pattern card before each child.

2. Instruct the children to lay the beads out on the mat along with the string. Tell them to place the pattern card above the mat where it can be clearly seen.

3. The child is to copy the pattern. The teacher can demonstrate to the children how to lay the string out, place each bead over the drawing of that bead on the pattern card. After placing a bead over each pattern card bead, the children should carefully string the beads in the sequence shown on the card.

4. As a concluding activity after the children have sequenced all of the beads, have them choose two different beads and hold them in their hands. Instruct them to carefully look at the two beads, place the blindfold over their eyes, then to lie down and relax. Direct them to picture in their minds the two beads they are holding. Have them visualize the color of the beads. Ask each child to describe the beads, one at a time. Have the children remove their masks and return the beads to the box. Finally, the children are to draw pictures of their beads, coloring them the correct colors.

Control of Error : If the bead pattern is not correctly copied, additional beads will be leftover.

Variations for Subsequent Activities : 1. Use a pattern card showing only one pattern actual size, and have the child duplicate the pattern five times from a completed pattern.

2. Use a pattern card containing a complete pattern, but with the drawings reduced in size.

3. Use a pattern card containing one pattern only but with the

drawings reduced in size.

4. Have the child make a bend pattern from the teacher's verbal descriptions only.

In experimental Group I, the children were given the opportunity to explore and work with the materials in order to discover and discuss the concept being presented. The children used blindfolds in order to focus on the concept being taught in each mental imagery activity. As a part of the activity they handled and manipulated the item and made a mental picture of that item through sensory input. The lesson ended with the children's drawing the objects from memory after the mental imagery activity was completed.

Experimental Group II followed the same procedure for the early concept segment of the lesson using the identical materials. However, there was no mental imagery or drawing activity at the conclusion of the lesson. Both groups had identical amounts of time using the concept development materials. The Control Group was administered the test only, and was not subjected to any treatment.

Procedure : Ss were tested at the beginning of the six-week period with the CAT, which was developed from the original Lorge-Thorndike Intelligence Test and designed to assess the development of cognitive abilities at the kindergarten level. The administration of the CAT involved four sub-tests: oral vocabulary, relational concepts, multimental concepts, and quantitative concepts. The test provided several scores for each student which were used as research variables. These included raw scores for each of the four sub-tests, a total test raw score, a deviation I.Q. (mean I.Q. 102 with a standard deviation of 17 points for the normative sample, and statistically adjusted in order that the 50th percentile corresponds to an I.Q. of 100), a deviation I.Q. percentile rank based on the total raw score, and a grade stanine. In this study the scores resulting from the administration of the CAT were used for statistical analysis of the cognitive skills for both experimental and control groups.

Findings : Differences among the three groups on the variables resulting from the application of the CAT were tested by the F test using analysis of variance statistics techniques to determine if significant differences existed. In cases where statistical differences were found, the *t* test for significant differences was applied in order to determine where such differences existed between pairs of groups. Finally, in order to determine if significant effects could be ascribed to selected attributes, analysis of covariance was applied in order to equate groups on the independent variables of age and I.Q. scores.

One-Way Analysis of Variance (ANOVA) indicated that a significant difference among the groups occurred on all of the CAT sub-tests as indicated in Table 1. The computed F values on the sub-tests reveal nine significant differences among the group means at the .001 level of significance with one group mean difference occurring at the .01 level of significance. The Experimental Group I means on all CAT sub-tests exceeded the means of both Experimental Group II and the Control Group.

Table I

Analysis of Variance
Cognitive Abilities Test Posttest

	N	Mean	Standard Deviation	Source of Variation	ss	ms	df	F	Signif.
Oral Vocabulary									
Ex. Group I	24	[illegible]	2.305	Between	306.098	153.049	2	33.352	.001
Ex. Group II	20	6.250	2.540	Within	275.332	4.589	60		
Control	[illegible]	9.947	1.508	Total	581.430		62		
Total	63	9.429	3.062						
Relational Concepts									
Ex. Group I	24	12.042	2.193	Between	44.785	22.393	2	4.997	.01
Ex. Group II	20	10.100	2.246	Within	268.867	4.481	60		
Control	19	11.684	[illegible]	Total	313.652		62		
Total	63	11.318	2.242						
Multi-Mental Concepts									
Ex. Group I	24	11.750	2.132	Between	150.539	75.270	2	9.950	.001
Ex. Group II	20	8.050	3.859	Within	453.875	7.565	60		
Control	19	10.369	1.921	Total	604.41[illegible]		62		
Total	63	10.159	3.122						
Quant. Concepts									
Ex. Group I	24	9.200	2.828	Between	122.837	61.419	2	7.600	.001
Ex. Group II	20	5.950	3.426	Within	484.909	8.081	60		
Control	19	[illegible]	2.082	Total	607.746		62		
Total	63	[illegible]	3.131						
Total Raw Score									
Ex. Group I	24	49.458	8.278	Between	2820.250	1410.125	2	17.931	.001
Ex. Group II	20	33.400	11.431	Within	4718.625	78.644	60		
Control	19	42.895	6.054	Total	7538.875		62		
Total	63	42.381	11.027						
CAT Deviation IQ									
Ex. Group I	24	101.125	[illegible]	Between	7275.750	3637.875	2	21.874	.001
Ex. Group II	20	75.300	14.680	Within	9978.625	166.310	60		
Control	19	89.263	9.654	Total	17254.375		62		
Total	63	89.349	16.682						
I.Q. Percentile									
Ex. Group I	24	53.875	25.723	Between	19,155.313	9,577.656	2	20.105	.001
Ex. Group II	20	12.700	19.658	Within	28,582.688	476.378	60		
Control	19	28.105	18.291	Total	47,738.000		62		
Total	63	33.032	27.748						
Deviation I.Q. Stanine									
Ex. Group I	24	5.292	1.631	Between	94.763	47.381	2	19.651	.001
Ex. Group II	20	2.350	1.599	Within	144.667	2.411	60		
Control	19	3.790	1.316	Total	239.429		62		
Total	63	3.905	1.965						
Grade Percentile									
Ex. Group I	24	51.875	22.507	Between	14,391.688	7,195.844	2	17.665	.001
Ex. Group II	20	16.000	20.499	Within	24,441.313	407.355	60		
Control	19	30.421	16.341	Total	38,833.000		62		
Total	63	34.016	25.027						
Grade Stanine									
Ex. Group I	24	4.958	1.489	Between	55.699	27.849	2	13.792	.001
Ex. Group II	20	2.700	1.626	Within	121.159	2.019	60		
Control	19	4.000	1.054	Total	176.875		62		
Total	63	3.952	1.689						

Computation of *t* tests determined the location and significance of differences between the means of the CAT sub-tests between pairs of groups.

Experimental Group I achieved higher means than did Experimental Group II on each of the ten sub-tests with nine differences between means occurring at the .001 level of significance and one at the .01 level. Differences between means for Experimental Group I and the Control Group on two sub-tests were significant at the .001 level, five sub-test means differences were significant at the .01 level, one sub-test mean was significant at the .05 level, and one sub-test mean difference (Relational Concepts) was not found to be significant. The highest mean on each sub-test, however, was achieved by Experimental Group I. Significant differences between Experimental Group II and the Control Group on two sub-test means differences were found at the .001 level, three sub-test means differences were significant at the .01 level, four sub-test means differences were significant at the .05 level and one sub-test mean difference (Quantitative Concepts) was not found to be significant. All CAT sub-test means in this compariosn revealed higher scores for the Control Group than for Experimental Group II.

In order to determine the effects of intelligence on the concept learning activities, analysis of covariance techniques were applied to the four distinct sub-tests of the CAT using the deviation I.Q. obtained from the CAT as the covariate. Table 2 contains the analysis of covariance results for the four independent sub-tests of the CAT covaried for intelligence. In each of these sub-tests, a significant F at the .001 level resulted with intelligence as covariate. There was a difference, however, in the

Table 2

Analysis of Covariance Cognitive Abilities Test
Posttest Subtests Covaried for Intelligence

	N	Mean	Adj. Mean	Variation	Sum Squares	df	Mean Square	F	Signif.
Oral Vocabulary									
Ex. I	24	11.583	10.33	IQ	372.315	1	362.315	135.241	.001
Ex. II	20	[illegible]	7.85	Group	46.685	2	23.342	8.479	.001
Control	19	9.947	9.96	Residual	162.426	59			
Relational Concepts									
Ex. I	24	12.042	10.61	IQ	179.937	1	179.937	87.946	.001
Ex. II	20	10.100	11.81	Group	12.998	2	6.499	3.176	.050
Control	19	11.684	11.70	Residual	120.714	59			
Multi-Mental Concepts									
Ex. I	24	11.750	10.00	IQ	369.950	1	369.950	93.683	.001
Ex. II	20	8.050	10.14	Group	1.472	2	.736	.186	NS
Control	19	10.369	10.38	Residual	232.988	59			
Quantitative Concepts									
Ex. I	24	9.209	7.21	IQ	395.963	1	395.963	118.531	.001
Ex. II	20	5.950	8.34	Group	14.685	2	7.342	2.198	NS
Control	19	7.000	7.02	Residual	197.094	59			

effect that intelligence as a covariate exercised on the differences among group means. When Oral Vocabulary and Relational Concepts sub-tests were covaried holding intelligence constant, significant differences among group means continued to be found, as was the case with the application of one-way analysis of variance techniques. Multimental concepts and Quantitative Concepts sub-tests means, however, were not found to be significantly different when controlled for intelligence of Ss, in contrast to significant differences among means as indicated by use of ANOVA. However, there is a heavily-loaded general ability factor influencing all CAT sub-test scores (Buros).

It would appear that this factor exists to a greater extent in the Multi-Mental and Quantitative sub-tests than in the Oral Vocabulary and Relational sub-tests. When the three groups used in this study were controlled for the influence of intelligence, means exhibited less variation on the two sub-tests which tended to reflect the more typical content found in intelligence measures such as language usage and number concepts. While some adjustment of means does occur on Oral Vocabulary and Relational sub-tests, the difference among means when controlled for intelligence remains significantly different.

Table 3 contains the results of the analysis of covariance for the four distinct sub-tests of the CAT covaried for age in months. In addition, ANOVA's were carried out for the six variables on the CAT which are derived from scale conversions of the total raw score. In only one of the sub-tests (Multi-Mental Concepts) and one of the variables of the test (I.Q. Percentile), did age make a significant difference as indicated by the F value, both being at the .05 level of significance. Significant differences among means at the .001 level for all sub-tests and variables, except for Relational Concepts, which was significant at the .01 level, were found to exist when age was the covariate. These findings are consistent with the results obtained when differences among means were analyzed with the application of ANOVA techniques.

When the three groups used in this study were controlled for the influence of age, there is a significant difference among the group means for each of the four sub-tests and the six additional variables of the CAT. The use of age in months as a covariate results in the adjustment of CAT means for each of these measurements. It was found, however, that this adjustment spread the means to a greater extent, resulting in an even more significant difference among them. More important was the increase in the adjusted mean scores for Experimental Group I, which has the lowest mean chronological age.

Summary

Children experiencing early concept activities with mental imagery exercises performed significantly higher on all the sub-tests of the CAT than did either of the other two groups. There are several conclusions which can be drawn from the results of this study. The most central finding resulting from the analysis of the data regarding the acquisition

Table 3

Analysis of Covariance Cognitive Abilities
Test Posttest Subtests covaried for Age

	N	Mean	Adj. Mean	Variation	Sum Squares	df	Mean Square	F	Signif.
Oral Vocabulary									
Ex. I	24	11.89	11.72	Age	4.045	1	4.045	.955	NS
Ex. II	20	6.53	6.22	Group	327.412	2	163.706	38.630	.001
Control	19	9.96	9.91	Residual	249.989	59	4.237		
Relational Concepts									
Ex. I	24	12.04	12.14	Age	4.829	1	4.829	1.105	NS
Ex. II	20	10.10	10.01	Group	50.914	2	25.457	5.824	.010
Control	19	11.68	11.06	Residual	257.9[illegible]	59	18.581		
Multi-Mental Concepts									
Ex. I	24	11.75	11.96	Age	28.178	1	28.178	4.188	.050
Ex. II	20	6.05	7.85	Group	179.237	2	89.6[illegible]	13.319	.001
Control	19	10.37	10.32	Residual	396.995	59	6.728		
Quantitative Concepts									
Ex. I	24	9.21	9.37	Age	12.709	1	12.709	1.655	NS
Ex. II	20	5.95	5.80	Group	142.021	2	71.010	9.248	.001
Control	19	7.00	6.96	Residual	453.013	59	7.678		
Total Raw Score									
Ex. I	24	49.46	50.11	Age	193.588	1	193.588	2.742	.001
Ex. II	20	33.40	32.78	Group	3,180.445	2	1,590.222	22.528	NS
Control	19	42.90	42.93	Residual	4,164.785	59	70.590		
Deviation IQ									
Ex. I	24	101.13	101.06	Age	303.753		303.753	1.797	NS
Ex. II	20	75.30	75.37	Group	6,978.004		3,489.002	20.642	.001
Control	19	89.26	89.28	Residual	9,972.504		169.025		
IQ Percentile									
Ex. I	24	53.88	53.34	Age	1,930.712		1,930.712	4.038	.050
Ex. II	20	12.70	13.21	Group	17,600.441		8,800.219	18.407	.001
Control	19	28.11	28.24	Residual	28,206.678		478.079		
Deviation IQ Stanine									
Ex. I	24	5.29	5.26	Age	7.727		7.727	3.176	NS
Ex. II	20	2.35	2.37	Group	88.171		44.085	18.122	.001
Control	19	3.79	3.79	Residual	143.531		2.433		
Grade Percentile									
Ex. I	24	51.88	52.93	Age	248.324		[illegible]	.637	NS
Ex. II	20	16.00	15.00	Group	15,580.566		[illegible]	19.980	.001
Control	19	30.42	30.16	Residual	23,003.988		[illegible]		
Grade Stanine									
Ex. I	24	4.96	5.04	Age	3.391		3.391	1.804	NS
Ex. II	20	2.70	2.61	Group	62.528		31.268	16.627	.001
Control	19	4.00	3.97	Residual	110.938		1.880		

of early concepts at the kindergarten level is the consistent and positive effect of mental imagery exercises as a part of learning activities.

Since there is evidence that achievement in early concept learning through mental imagery is not restricted by the relatively wide chronological age range of kindergarten children, nor is it limited to a selected level of intelligence, a more general application of the method would seem to be indicated. The results of this study indicate, therefore, that the use of mental imagery exercises can be an effective teaching technique in the regular kindergarten classroom. The materials utilized with the mental imagery exercises are those which are typically found in kindergarten classrooms. This approach can also be generalized into other curriculum areas with only minor adaptations and modifications in the level of activity and selection of materials.

Attainment of early concepts by young children is a crucial factor in the development of learning skills for their lifetime. Concept attainment can be strengthened for children and avoidance of delays in concept development may well be the result of implementation of more mental imagery activities in the kindergarten classroom. The benefit to children in the development of their potentials argues favorably for greater attempts to make sure such techniques are more often used in the schools.

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Le rôle des images mentales dans le développement de l'intelligence de l'enfant

Dans ce projet de recherche on a examiné le rôle des images mentales dans l'apprentissage des concepts chez des enfants d'une école maternelle publique. Des données expérimentales ont été recueillies auprès des enfants de trois classes différentes. Pendant une période de six semaines on a donné à deux des groupes environ vingt ou trente minutes d'activités destinées à favoriser l'acquisition des concepts chez ces enfants. Dans un de ces groupes expérimentaux on a employé des exercices de visualisation; dans l'autre groupe, des images mentales n'ont pas été utilisées. En se servant du test de capacités cognitives comme moyen d'évaluation, on a trouvé que ces enfants qui avaient eu l'expérience des images mentales ont atteint un niveau plus élevé en ce qui concerne la formation des concepts que ceux qui n'avaient pas eu cette même expérience. Ces différences sont devenues plus marquées quand l'âge et l'intelligence n'ont pas varié.

Geistige Bilder in früher kognitiver Entwicklung

In dieser Studie wird der Gebrauch von geistigen Bildertätigkeiten im frühen Begriffserlernen mit Kindergartenkindern untersucht. Daten wurden von Kindern in drei staatlichen Kindergartenklassen gesammelt. Die Kinder in zwei experimentellen Gruppen wurden für sechs Wochen 20-30 Minuten dauernden Tätigkeiten in Begriffserwerbung ausgesetzt. Eine experimentelle Gruppe hatte zum Zweck des Vergleichs Übungen mit geistigen Bildern, und eine Klasse wurde als Kontrollgruppe bezeichnet. Mit dem Cognitive Abilities Test als Bewertungsinstrument wurde herausgefunden, daß Kinder, die die Übungen mit geistigen Bildern gehabt hatten, höhere Stufen der Begriffsbildung erlangten als Kinder, die diese Erlebnisse mit geistigen Bildern nicht hatten. Diese Unterschiede wurden deutlicher, wenn Alter und Intelligenz konstant blieben.

Imaginacion Mental en el Inicio del Desarrollo Cognoscitivo

Este estudio examino el uso de las actividades de imagininación mental en el concepto de aprendezaje anticipado con las niños del kinder. Se ha juntado los datos de las clases del kinder de tres escuelas públicas. Los niños en dos grupos experimentales fueron proporcionados con 20-30 minutos de actividades de adquisición de conceptos por un periodo de 6 semanas. Un grupo experimental incluyo los ejercicios de imaginación mental con una clase diseñada como el grupo control para propósitos comparativos. Utilizando la prueba de abilidades cognitivos como el instrumento evaluativa, se encontró que los niños que experimentaron los ejercicios de imaginación mental lograron niveles mas altos de formación de concepto que los niños que no experimentaron los ejercilios. Estas diferencias llegaron a ser mas marcadas cuando la edad y la inteligencia se mantuvieron constantes.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(3)

Teaching Children to Relax [1]

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and

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Abstract

The main goal of this study was to evaluate if simple relaxation techniques could be taught to pupils in grades 6-12 in Swedish schools. Experimental students were given various relaxatiion techniques as part of physical education classes whereas control students randomly selected were not. Psychological and physiological criterion measures were taken before, during and after relaxation training. The authors concluded that 6-8 weeks of their relaxation training 3 times a week was enough for pupils to learn basic relaxation skills.

Background

During the last years a growing interest in different techniques of tension control has appeared in many divergent fields such as sport, education and medical treatment. In spite of the increased interest in this area it is remarkable that the amount of systematic research is very small in relation to how often these techniques are used. This is especially characteristic regarding research on children and adolescents, where very few studies have been done. The studies which have been conducted have generally had a clinical approach and have mostly included very few persons. The situation is similar concerning studies in school contexts, where systematic large scale investigations (Jacobson and Lufkin, 1968; Angers et al, 1975; Engelhardt, 1976) are almost nonexistent.

The lack of serious and well-documented research in the tension control area was one of the reasons why this research project was started. Another, but quite different, reason was the feeling that learning different kinds of tension control techniques could be of great value for school pupils in our complex and often stressing modern society. A pilot study (Setterlind & Unestahl, 1978) showed some promising results, which strengthened the belief that such methods could be helpful in a variety of situations both in school and in leisure time.

An important task in today's schools ought to be the increase of the pupils' health consciousness by sport and other kinds of physical activities, to teach about the importance of eating well-composed food, the danger of drugs, etc. These issues are usually stressed in curriculums and other goal documents for school systems, but in Sweden and most other countries the role of relaxation and other tension reducing methods has been neglected.

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[1] Paper presented at the Fifth World Sport Psychology Congress in Ottawa 1981. This study was financed by The Bank of Sweden Tercentenary Foundation.

Aims of the study

There were several aims for the research project as a whole. Very briefly, it could be said that the main goal was to systematically test and evaluate simple and short programs for tension control techniques on pupils in grade six (age 12) to ten (age 17) in the Swedish school system. Is it for example possible for all pupils to learn relaxation techniques in the ordinary physical education lessons? How much time will it take? Are there any age or/and sex differences? These are some examples of related questions.

Hopefully the results of the study will make it possible to make recommendations of how effective training in relaxation could be used for different groups of pupils in everyday life at school.

A scientifically very important question was to study if there were any short or long term effects of relaxation training regarding selected psychological (anxiety, self concept and confidence, body-awareness, perceived rest, etc) and p hysiological (respiration and heart-rate, blood pressure, lactate, catecholamines) variables. Another aim was to study how often relaxation training is used in Swedish schools today, and how much and what kind of further education is needed for teachers and other school personnel (nurses, psychologists, counsellors, etc).

In this paper it is only possible to give a very limited outline of the aims, design and preliminary results of the project. The interested reader is recommended to study the reports that will be published in 1981/82.

Design of the main study

The main study could briefly be characterized as an experimental study in a natural milieu (the school) with one experimental group (N= 294) and one control group (N= 287). The school classes which took part in the investigation were randomly assigned to the experimental and control group. Measurements were done before, during and after the experimental period (relaxation training). The last "after - measurements" were done as long as one year after the relaxation training period had ended.

The experimental situation consisted briefly of three steps; see also Fig. 1:

1. The stress concept was introduced and discussed in a theoretical lesson. In this lecture motivation for and information on relaxation was also given.

2. Different programs of relaxation were practised during a period

of six weeks.

3. Evaluation was through different psychological tests and questionnaires during and after the experimental period.

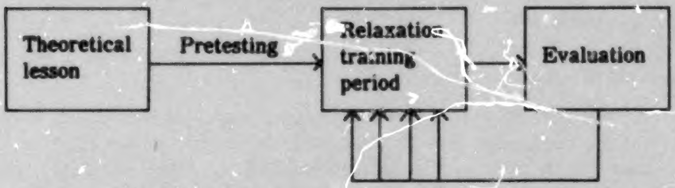

Fig. 1. The experimental design of the main study

It can also be added that all the physical education teachers who took part in the study participated in a course of relaxation before the experiment started. During a period of six weeks in the autumn of 1979 relaxation training was done with the help of eight different tape-recorded programs. The relaxation techniques were given at the end of the physical education lessons (3 times a week) and varied between 7-12 minutes. 294 pupils from five schools in age between 12 and 17 years participated in the experiment. A short repetition (two weeks) of the relaxation training was done again in the spring of 1980.

Besides the main study, some large survey investigations of teachers and other school personnel were conducted concerning experiences, attitudes and education in the field of relaxation. Furthermore some smaller special studies related to the physiological effects of relaxation and to the ability to recover after physical exertion were done.

Presentation of the relaxation programs

The order, content and length of the eight programs are shown below:

1. Muscular relaxation 12 min week 1
2. Muscular relaxation 8 min week 2
3. Mental relaxation 10 min week 3
4. Mental relaxation 8 min week 3
5. Learning of a "trigger" 8 min week 4
6. Deepening relaxation 8 min week 4
7. Own choice of relaxation 8 min week 5 technique
8. Self-training 7 min week 6

The eight programs contain parts from different techniques of tension control. Elements from progressive relaxation, autogenic training, meditation, yoga and self-hypnosis are found in the programs.

A hypothesis made in this study was that there are many ways (although some basic similarities exist) to reach the same reaction: the relaxation response (Benson, 1975), but that different individuals prefer a certain technique or learn it more easily. This is probably due to personality factors, earlier experiments, expectations and so on.

From this background it is important to see all the eight programs as a whole, and that there is a planned continuity in the learning of relaxation from the first to the last program. As in all complex learning tasks there are probably components from different learning theories which are active in the learning process (Cf Gagne, 1970). The learning of relaxation can - according to this way of reasoning - be explained by several factors. In the programs it was also possible to identify six different phases (and parts of different learning theories) of the learning process:

Phase 1. Gives experience of what relaxation is, and is not, through shortened versions of Jacobson's method of progressive relaxation. (Program 1 and 2.)

Phase 2. Learning relaxation through conditioning processes. (Program 1 and 2.)

Phase 3. The passive concentration on particular muscles or muscle groups will after some time in training elicit a tonus decrease in the intended muscles or part of the body by the effect of the "reversed ideomotoric tendency.". (Program 3 and 4.)

Phase 4. Learning of a "trigger" (a specific stimulus or signal) which alone can elicit relaxation. (Program 5.)

Phase 5. Presenting different methods of deepening the relaxation such as imaginative training, techniques of breathing and meditation. Intentional individual choice of a technique. (Program 6 and 7.)

Phase 6. Self-training without instruction. (Program 8.)

Some preliminary results

In this paper only a very small number of the large amount of data from the main study are presented. The results are given for the total group of pupils only, and no separation is made for such important factors as age and sex.

During the experimental period of six weeks the participating pupils answered questions (mostly the same) on four different occasions directly after they had finished the relaxation training. One of the questions was: "What is your opionion about the relaxation training up to now?" The answers showed a very stable pattern, about 90% were positive, 8% neither positive nor negative and 2% were negative.

Another question was formulated in the following way: "How do you experience the relaxation training?" Very similar results appeared. No less than 90-94% of the pupils thought that the relaxation training was pleasant, about 7% thought that it was neither pleasant nor unpleasant and 1-2% felt it unpleasant. On a "mood-test" (Svensson, 1978) 88-93% agreed (fully or mostly) that they felt relaxed just after the relaxation training.

After the end of the training period the pupils answered a lot of retrospective questions about the relaxation training. To the question, "Do you think that you learned to relax during this training period?" 55%

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marked the alternative "Yes, absolutely", 43% marked "Perhaps" and 2% "Not at all". haps" and 2% "Not at all". A little less than half of the group (45%) thought that the relaxation had been useful, 53% answered "Perhaps" and 2% did not think so. Other results from the questionnaire showed that 40% were sure that they could relax without assistance from a teacher or a tape recorder, while 56% were a li ttle undecided (they had marked "Perhaps"). A minority of 4% were quite sure that they could not manage to relax by themselves.

More than ninety percent of the students said that it was very easy (42%) or rather easy (51%) to learn relaxation by means of these programs. Among the perceived subjective effects of the relaxation training 52% thought that they could do their school work better, 33% believed that their sleep had improved, 60% felt less stressed and 40% felt more at ease with themselves.

Discussion

To sum up, the data from the experimental group give a mostly positive view of relaxation training. But it must be kept in mind that these are only preliminary results presented for the total group. There might be some sub-groups in the sample which are less positive. Further analyses will indicate if there are any such groups. Moreover many of the questions from the enquete (inquiry) are not included in this short paper. The results from our physiological studies must also be taken into consideration before a more definite answer can be given about the value of relaxation training in schools. And finally we must bear in mind that the "Hawthorne effect" has probably influenced this experiment as it usually does in experimental studies.

Implications

Although there is still a lot of uncertainty regarding the presented results, some mostly practical implications for relxation can be suggested from this study:

1. It is important to create motivation, expectation and a positive attitude by informing the pupils in advance about stress and relaxation.

2. The teacher ought to have experiences of his own of relaxation before starting the training of pupils.

3. The learning of relaxation should be done step by step, where the ultimate goal should be to make pupils handle the relaxation by themselves independently of recorded tapes or teachers.

4. The training of relaxation should start in connection with physical activity.

5. It seems that training for six to eight weeks three times a week at the end of the physical education lessons is enough for the pupils to get basic skills in relaxation.

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L'enseignement de la relaxation aux enfants

Le but de cette étude a été de voir si on pouvait enseigner de simples techniques de relaxation aux enfants des six dernières classes des écoles suédoises. On a donné aux élèves du groupe expérimental diverses techniques de relaxation dans des classes de culture physique; les étudiants du groupe de contrôle n'ont pas fait de relaxation. D'après les résultats d'examens à la fois psychologiques et physiques, faits avant, pendant et après l'enseignement des techniques de relaxation, les auteurs ont conclu qu'à raison de faire de la relaxation trois fois par semaine pendant une période de six à huit semaines, les élèves en ont appris les techniques de base.

Das Unterrichten von Entspannungstechniken mit Kindern

In dieser Studie wollte man bewerten, ob einfache Entspannungstechniken Schülern der sechsten bis zwölften Stufen in schwedischen Schulen beigebracht werden könnten. Experimentellen Schülern wurden verschiedene Entspannungstechniken als Teil der Leibeserziehungsklassen gegeben, wobei wahllose ausgesuchte Schüler dies nicht hatten. Psychologische und physiologische Messungen wurden vor, während, und nach dem Entspannungstraining genommen. Die Verfasser schloßen daraus, daß 6-8 Wochen von ihrem Entspannungstraining dreimal in der Woche den Schülern genug war, um eine grundliegende Entspannungsgeschicklichkeiten zu erlernen.

Enseñando a Niños a Relajar

La meta principal de esta investigación fue determinar si metodos simples de relajación pudieron ser enseñados a estudiantes de los grados 6-12 en escuelas suecas. Estudiantes que participaron en la investigación fueron ofrecidos varias técnicas de relajación como parte de su educación física, y estudiantes seleccionados por acaso para el grupo de control no las recibieron. Medidas psícologicas y físicas de criterio fueron notadas antes, durante, y despues del entrenamiento de relajación. Los autores concluyeron que entre seis y ocho semanas de entrenamiento de relajación recibidos tres veces semanalmente fueron suficiente para enseñar a los estudiantes las habilidades básicas de relajación.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(3)

WHY YOU didn't learn and how you CAN

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Abstract

The author details his own experiences with Suggestology and Suggestopedia both as a student and teacher, ties his observations in with the literature and presents a detailed example of how to accelerate the learning of English grammar.

Preface

I was puzzled why I sometimes saw classroom averages that hovered around 90 percent in my own classroom. I thought, perhaps, I was doing something wrong. Maybe I was being too easy. After all, the educational classes all teachers take suggest that the class average should be normally around 75 percent for any given one hundred students.

At first, it had not fully occurred to me that I had gradually altered my teaching strategies by a combination of intuition, trial and error, and reading. After two years of teaching, my feelings told me the lecture system didn't work. Students looked lackluster. Papers seemed artificial.

Lectures have a way of creating hothouse atmospheres that students imitate in their written performance. Styles reflect artificial rhetoric; the substances of such papers seem removed from everyday realities.

So I began to teach by dialogue-like discussions. When I asked cut and dried questions, discussion went nowhere. But when I asked questions that were open-ended, discussion flourished and interchange felt good. Closed questions that were supposed to elicit recitation of the RIGHT ANSWER given in a text immediately placed students in negative positions. Their lives and thoughts became unimportant and irrelevant. With open-ended discussion techniques, classes felt better, students liked them more, I liked being there too, and written performances began to reflect the substance and complexity of life.

But why did some classes work better than others? The obvious problem was self-consciousness. Self-conscious students would not participate as freely as those who were not. Self-consciousness also was apparent in written performances that were bland, overgeneralized, and undeveloped. In papers, I suggested students take devil's advocate positions. In discussion I suggested the students pretend they were different personalities. The suggestions worked more often than not. Freshness, playfulness, more accurate and creative attention to detail came of this.

Later, I happened on Fritz Perls, *Gestalt Therapy Verbatim* (1959). What Perls was doing in psycho-therapy, I was using as a discussion technique and an approach to writing. But what Perls seemed to insist on, to look honestly at yourself and the roles you knew you were playing as well as the opposing problems you encountered, was not entirely workable. It was too brutally serious. And I was entirely too serious. But role playing was entirely manageable. Anyone could handle toying with attitudes, looking at the positive side of an issue and then looking at the negative side. The results were useful as well. The best learning accompanied play.

At the same time you go through this experience you wonder if it is right. Hard work is supposed to be the good; "an idle mind is the devil's workshop;" learning should be accompanied by sweat and pain. And yet learning seemed to happen better when everyone was having a good time, when the details supposed to be learned were interjected incidentally, looked at unobtrusively with a good part of the class getting their hands on the issues whatever way they could. Some students complained the classes weren't serious enough: "We aren't learning anything," they said. Another student said to me, "I noticed when I participated I remembered everything that hour." I had noticed the same thing. I remembered the whole class from the first hour to the last hour of the term; I could quote or paraphrase what students had said weeks before AND in connection with the subject matter for the day. So could they. The students who complained still learned. They simply didn't know they had. I saw the results in their papers. I was excited at the results but intellectually unsatisfied--I didn't know why this worked.

Perls' writings almost made me comfortable but not quite. Carl Rogers, *On Becoming a Person* (1961) convinced me of one of the things I was doing right. I had fallen into the habit of accepting students where they were. I listened. I had not thought about the power of unconditional acceptance of a point of view. It simply seemed human to me. It is human and it is a positive heuristic tool. When students feel accepted, they also feel unthreatened and they relax. In relaxing, all of the interaction of the class goes into a network of experiential associations with the subject matter. The subject matter becomes connected with how one student sees it and says it through the eyes of their own personal history, they also see how students react to them, how others see it, how teacher sees it, and all the feelings spontaneously generated in the process.

Lots of good teachers exist and also much good teaching. In the same way, a lot of beauty and danger go unnoticed in the world. Walking in the forest, a person doesn't always notice the mushrooms and toadstools. But as you read mushroom books, you begin to notice more mushrooms. The poisonous mushrooms become immediately obvious. They are easy to identify. As in mushrooming, I've seen myself fascinated by my poisonous mistakes in classes. They were easy to talk about, and dangerously beautiful as a habit of discussion. I've now read enough mushroom books to identify some poisonous species in teaching--and better yet--to taste some of the delicious, nourishing varieties. One important educational mushroom book that provides solid empirical evidence for successful teaching is Georgi Lozanov's *Suggestology and Outlines of Suggestopedia* (1978). Every educator should read it. What I've done is to use it, and much more, to identify nourishing attitudes and procedures in teaching that can be fun as well as learning that can be durable.

Great Expectations

The seminal idea in Platonic writing is the root assumption that everyone already knows everything. The idea is presumably founded in the belief that humanity comes from a divine source, and humanity carries the divine imprint, including all the knowledge that exists. Connected with this notion is the supposition that the physical world is a material disguise for ideal forms: ideas are the ultimate reality behind the physical universe. All it takes to make knowledge surface is to fan the internal fire with a little education in its oldest etymological sense, to behave as if you were "drawing out" what is inside. I suspect that what masquerades as this philosophic position in Platonic dialogues is, in reality, a fully imagined and compelling heuristic principle: great expectations in a Socratic teacher produce great results in Socratic students. As a student is expected to do well, the student does in fact do just that well.

The mind and the body cannot tell the difference between what is imagined to be true and what is really true. Perhaps, the first parent of the art of suggestion was Socrates: the idea has material effects. A striking example of an idea affecting physiology was recently broadcast over radio. A man was trapped inside of an abandoned refrigeration car of a train. He must have thought he was freezing to death and did indeed freeze to death. What was unusual about this event was the refrigeration machinery was inoperational, and the temperature in the boxcar was at no time below freezing and could not have at any time been even close to freezing temperatures.

Another example of mind interfering with matter, out of many examples mentioned in Maxwell Maltz, M.D., *Psycho-Cybernetics* (1960) was the case of a man who developed a bump on his lip. He believed the sore was malign, lost 30 pounds, and aged 20 years in 6 months. According to Maltz who examined him, the bump was merely benign scar tissue. His imagination was responsible for his physical symptoms.

Similar instances of the power of expectations are found in placebo experiments. A person takes a sugar pill believing that the secret chemical will improve his health. Health improves. People take sugar pills thinking they will take away pain, and the pain disappears. And in many instances placebos are both subjectively more satisfactory and even chemically more effective in releasing the body's natural pain inhibitors, called endorphins, than are narcotic pain killers (Fields, 1978). The obvious reasons why placebos work are that either people believe in material solutions through chemical means, or they believe in the authority of the person administering the placebo. In both cases, the cause is an act of imagination.

The reasons why the body responds to imagination are convincingly discussed in biofeedback investigations. The sympathetic and parasympathetic (involuntary) nervous systems were found to be intimately connected. Originally the parasympathetic nervous system was thought to control heartbeat, circulation, respiration, hormone production, and other autonomic functions, separately and independently. The parasympathetic system was considered to operate automatically without conscious deliberation *or* voluntary interference--the heart beats and we breathe without thinking about these functions. On the other hand, the sympathetic system was thought to be controlled by will and imagination to prepare the body for flight or fight in times of physical danger. Scientific encyclopedias defined the two systems as separate. Early biofeedback research indicated that emotional and physical disorders were connected with unconscious interference of the sympathetic with the parasympathetic system: a person's imagination of social stress accelerated heart beat, lowered dermal temperature, and increased muscular tension over an extended period of time. With a sympathetically dominated body, "The results could range from general fatigue and subclinical aches and pains to infectious diseases, cancer and some of the more serious ailments..." (Rosenbaum, 1978). Biofeedback training, autogenics, alphagenics, all borrowed and Westernized versions of yoga, Zen and other Asian practices, were found to dampen the negative interference of negative thoughts and feelings and restore the body and mind to a blanced healthy state.

The medical implications have been far reaching. They have suggested that thoughts alone have been responsible for poor physical health. Thoughts alone too have been responsible for good health. Hypertension, high blood pressure, persistent headaches, insomnia, even cancer, have been partially created by a person's response to social stress. Good health has just as easily been produced by different positive responsiveness, by positively imagining healthy, calm, confident, and relaxed life styles. The Greens' (1977) stated,

> The body does not seem to care about the scientific accuracy of the command, or about the results per se. It simply carries out commands. Negative, destructive commands are followed, it seems, with as much success as positive commands... Patients visualizations of success or failure, sickness or health, and ideas about their body and mind together determine to an important extent what happens to them.

The educational implications are equally profound. Every attitude and classroom procedure wittingly or unwittingly will produce command visualizations of success or failure, of limitations or of unlimited human capacity. To the extent that a classroom involves students and teachers in nervousness to that extent the mind responds with a dominant beta configuration resembling " electrical noise in frequency and voltage," (Brown, 1977). Muscular noise and mental noise, produced in a state of tension, also are connected with activating only half of the mind and its preference for short-term memory. As Lozanov's (1978) research has indicated, traditional education normally... "is addressed to the cortical structures, or only to the left hemisphere, of the pupil who is regarded as an emotionless cybernetic machine..." The surest way to have a class fail is to unknowingly keep a class on edge by suggestions that learning is difficult, joyless, students are incapable, and that students are less than fully human.

By the same token, the surest way to insure success is to create a positive, humanly complex environment where teachers enjoy what they are doing and where students expect to succeed. Most importantly, attitudes are visible and powerful: when mouth and heart are in the right place, great expectations are irresistible. When students are treated as machines with mechanical programming, they will respond accordingly.

School as a Barrier to Learning

When Scholastic Aptitude Test Scores declined in 1962, most people thought the schooling system had failed. Few people would think lowered skills were really the success of ordinary education. Writing abilities may never have been perfectly taught. In the 19th century, Harvard complained of poor writing by students. There are miscellaneous complaints in the Middle Ages that various priests had not learned Latin grammar. Where the Middle Ages may have had a few failures, the failures weren't intentional. Ancient school systems were very different. An integrated curriculum may seem strange to modern people. To learn the identity of people in relation to the world as it was known may seem strange: the relationship of mind to astronomy, mental rhythms to cosmic rhythms, mathematics to music. Everything that was the little world, microcosm, was related to the big world, the macrocosm. Literature was always related to life, grammar and literature were intimately connected.

However eccentric it may seem to modern eyes to teach and learn the relatedness of things in an integrated curriculum, the effects were rich and enduring on memory. The strangeness of reading a medieval text now is the strangeness of meeting an idea that is related to everything else in the classical world. The implications are so obvious as to go unnoticed. When grammar is connected with literature, neither grammar nor literature are forgotten. When information is given a rich context of connections, it is easily remembered and used. In contrast, when you look at modern presentations of information, you find that you are informed by specialists who know more and more about less and less. History textbooks are frequently dry inventories of facts. Grammar texts are dry inventories of rules without explanation or life-like connection. When people study isolated items of information, they are attempting to remember things equivalent to nonsense syllables which are rapidly forgotten. When Scholastic Aptitude Test Scores show declining abilities and information, the scores represent the success of the presentation. People don't remember punctuation or grammar because they were not supposed to.

Industrialism is part of the cause. Industrialism gradually changed our perception of time from the large daily rhythms of agriculture to the minutes and hours of the clock. Industrial technology, in the same way, shifted the importance of the human creator of products to the efficiency of clock-like production.

Mary Wollstonecraft Shelley's *Frankenstein* is an analogy for the history of the process. Dr. Frankenstein conceived of an improved human being that would be superior physically, mentally, and morally to an ordinary person. So he collected the best brain and placed it in an improved body. As soon as his creation breathed, he became frightened and rejected it. The creature attempted to be accepted by an ordinary family, but the family was frightened by the quality of his work and his undescribed "appearance." At this point, the creature is thought of as a "monster." In miniature, this compelling story suggests the pattern of industrial technology: Dr. Frankenstein is like the industrial scientist who wished to experiment with human labor to improve production through engineered and taylored human organization. The intentions were good enough; some of the results have been monstrous.

In order to engineer this improvement, the surly authoritarian head of the household had to lose his mental independence and dignity, "brain," and to become a "body" serving a new managerial mind whose values were machine-like orderliness, assembly line cooperativeness, specialization, and efficiency. In order to make the social surgery work, the laborer's sense of authority had to be de-sanctified and the idea of organization had to be deified. Business rules and regulations of efficiency had to take on moral overtones: lateness to work would slow down the assembly line. Just as engineers experimented with their physical materials and machines, managerial engineers considered labor in the same way--as mechanical objects. Dissatisfaction, high absenteeism and high quitting rates were the negative results. As industrialism aged, the problems created by its attitudes have become visible.

The same industrial process is now old enough to become visible in traditional education where dissatisfaction, high absenteeism and high attrition are also present. While factory system attitudes can be understood to be figuratively appropriat e as a description of schooling, few of us have suspected the intention behind its construction. To understand some of the history of traditional education will help prevent unconscious duplication of mechanistic attitudes, texts, and tests that make sch ool a barrier to learning.

In the Middle Ages, it was an ordinary accomplishment for a monk to memorize and creatively use dozens of book-length works. The structure of learning was personal, humane, and conferred dignity on the student (Knowles, 1962). The student was treated as having a creative, active part in the learning. "Medievals believed they had an important creative place in writing that was the character of sacred growth, change, not fixed laws that were to be passively believed," (Le Derq, 1961). Monks learned under a kindly parental teacher, a personal family model system, which used literary texts that emphasized human relationships in all their experiential color and complexity, positive attitudes about the humanity and importance of the student, singing, choral reading, active dialogues with teacher and text, tolerant questioning and argument for and against issues, and rhythmic breathing, (Eliade, 1958). During the same period, a similar family model system of master and apprentice existed in the crafts. "Work was not only... useful...but...carried with it a profound satisfaction... The details of daily work are meaningful because they are not detached... The worker is free to control his own working action. The craftsman is therefore able to learn from his work... There is no split of work and play," (Fromm, 1955).

Domestic industries gradually changed the family model and its satisfactions to the factory model with its discontents. The changes were characterized by fragmentation of learning and working tasks, originally performed by one person, into different, compartmentalized tasks performed by many in smaller and smaller units. For example, in shoe industries, called ten-footers, the employer designed the shoe, an apprentice cut the leather, another apprentice assembled the shoe, another did finishing, women and children packaged the product, and the shoe finally reached a retailer for sale. Originally, one craftsman designed, assembled, and sold the shoe himself, (Dawley, 1976). In the process, work lost its satisfying character and became merely a means of gaining money, (Braverman, 1974).

Ivan Illich has claimed that the same process influenced the school system until education has come to be treated as a business for marketing consumption, (Illich, 1970). Specific changes in 19th century education have been recently documented. In 1862, U.S. Congress passed the Morrill Act granting federal money and land for the support and development of agricultural colleges and mechanic arts. In ten years, the number of engineering schools mushroomed from six to seventy, (Noble, 1977). "Finding the graduates ill-equipped to handle the routine problems of industry, (experience-trained) practicing engineers put considerable pressure upon the schools to adapt their curricula to the demands of the 'real world.'" The "real world" was defined as the factory. As engineers moved rapidly into management in the 1890's, they applied their experience with materials and machinery to the behavior and productivity of employees, an attitude known as Taylorism, or scientific management. People were thought of and treated as machines. By 1906, the National Research Council was backed by corporate engineers "To retool American higher educational processes to meet industrial demands" as a "nationwide resource for corporate expansion and social control."

In 1923, the Secretary of War, John W. Weeks in cooperation with the National Research Council held a conference on the Standardization of Vocational Terminology. Out of this conference emerged cooperation of governmental, industrial, and educational agencies which were concerned with a movement "to standardize measurements and materials" and to "standardize human beings,"(Noble, 1977).

The factory conversion of schools also had its early critics. Thorstein Veblen, *Higher Learning in America* (1908, 1918), a "Memorandum on the Conduct of Universities by Business Men, " wrote "Business principles take effect in academic affairs most simply, obviously, and avowably in the business like administration of... scholastic routine, where they lead immediately to a bureaucratic organization and a system of scholastic accountancy... the underlying business like presumption accordingly appears to be that learning is a merchantable commodity, to be produced on a piece rate plan, rated, bought, and sold by standard units, measured, counted, and reduced to staple equivalence by impersonal, mechanical tests... the intrusion of business principles in the universities goes to weaken and retard the pursuit of learning, and therefore defeat the ends for which a university is maintained," (Noble, 1977).

It is not difficult to deduce that the uses of grades, the use of objective, multiple-choice tests, the emergence of specialist teachers for subject areas, even the movement of students from one building to another, all have origins in the engineering remodeling of education in the image of the factory assembly line. All of this has been forgotten. It was not commonly known outside of small, high management circles to begin with. The result is an unconscious shaping force on everything from the architecture of schools and attitudes in teaching through the creation of textbooks with step by step procedures and standard "competencies" for basic courses.

The thinking and motives behind this structure are found in social engineers (Gilbreth, Chipman, and Taylor) who invented the system. Frederick Taylor in *The Principles of Scientific Management* postulated that wholistic knowledge should be reduced to rules, laws, and formulas that required no thinking. "The progressive elimination of thought from the work of the office worker thus takes the form, at first, of reducing mental labor to a repetitious performance of the same small set of functions. The work is still performed in the brain, but the brain is used as the equivalent of the hand of the detail worker in production, grasping and releasing a single piece of data over and over again... The next step is the elimination of the thought process completely...nothing but mechanical labor is performed." The elimination of thinking was motivated by Taylor's basic principle of "separation of conception from execution" in the interest of assembly line efficiency and ease in control by the management, (Braverman, 1974).

Braverman (1974) makes the impact on schooling clear. Laws were changed to postpone the age of leaving school from 13 to 18 for the purpose of "keeping unemployment within reasonable bounds." Thus, "The knowledge imparted in the course of an elementary education was expanded to fill the prevalent twelve-year educational sojourn, that, several generations ago occupied eight." Since most factory jobs require only a sixth grade education, the content of learning was diluted and reduced to small repetitive tasks. As Ivan Illich (1970) has pointed out, the intent of schooling is not to learn but to habituate students to repetitive tasks so that eventually students will submit to institutional organization. "Many students, especially those who are poor, intuitively know what schools do for them. They school them to confuse process and substance. Once these become blurred, a new logic is assumed: the more treatment there is, the better the results...the pupil is thereby 'schooled' to confuse teaching with learning, grade advancement with education, a diploma with competence."

In the 1930's, U.S. factory management imported the postures and attitudes of Nazi Germany's industrialism, (Braverman, 1974). Soviet industrialism imitated the same model. I suspect a similar modeling occurred in all industrialized countries. Not only can it be said that traditional education has the atmosphere of a factory from desks in rows to numbered buildings, but it seems obvious where the militaristic airs of hierarchy in schools originated. The Third Reich is the first imperative. Everyone above you is right all the time, and everyone below is wrong. The administrator is the fascist-employer over the teacher; the teacher is the outranking officer over the soldier-employees who passively record their orders. Good memory and understanding would interfere with who is in control. Long-term memory within the usual classroom is neither important nor desired. Normally, teachers are convinced that little will be learned, and--after all--it's only important for an exam. These are powerful unconscious suggestions working against durable learning. To use textbooks that begin with the simplest isolated elements, which are abstractified, emotionless units of information, that are treated as ends in themselves without connection with ordinary life and usefulness, will follow the rapid forgetting of nonsense syllables in the Ebbinghaus curve. While forgetting and short-term memory may have been the desired results of the assembly line behavior, they were only experimental virtues in the earlier phases of industry. Outside of technology's laboratory experiments we find Monday and Friday cars, high absenteeism, and little satisfaction beyond the paycheck.

Within this factory system, we also find that Mondays and Fridays are hazardous to students' and teachers' health, absences are expected, and students are not expected to remember anything after the final exam.

Social Barriers to Learning and Alternatives

Teachers are fond of complaining about silent, uninterested students for obvious reasons: masks of boredom, apparent dullness and disinterest are classroom commonplaces that form invisible barriers preventing active involvement in learning. Part of the cause comes from the factory modeled schoolroom itself.

The teacher plays the role of foreman who oversees production, declares rules and formulas, and checks the product for flaws. Students play passive roles: they listen and follow orders. Student spectatorship becomes a habit of silence. Eventually students play the role of mechanical parrots who repeat singleminded, right answers because living and complicated human exchanges are discouraged as treasonable and inefficient. Few consider this medium unusual. Since students and teachers alike have been reared by television, little seems abnormal. Too much television creates spectatorship expectations: sports are events to be watched not activities to participate in. News is a source of entertainment, not a cause for reflection or action. Teachers are looked on as television sets that you watch but don't talk with.

The roots of silence are even more deeply buried. Social barriers to active participation may be hidden in unconscious, root assumptions in most ethnic groups, closing the minds and mouths of students when their social identity is at stake. Watanabe has pointed out in "Self-Expression and the Asian-American Experience," that the Asian student's "performance in the class reflects his feelings. His classroom discussion is forced, superficial, dull; his papers are usually perfunctory, uninspired, weak," Watanabe (1973). Part of this outward appearance is positively motivated by a social doctrine of unquestioning respect for authority figures: the teacher is perceived as a public equivalent of a revered parent. Restrained performance may be, according to Kaneshinge's (1973) "Cultural Factors in Group Counseling and Interaction," within Japanese family standards a positive virture because "(a) emotional expression is a sign of immaturity; (b) one should strive for adult behavior, and emotional restraint is one example..." So when Asian students are encouraged to be self-expressive, they may run up against social barriers. The familial role may be in conflict with the schoolroom role.

The conflict can be further worsened by racist assumptions. When Asians speak up on request out of deference for the authority of the teacher, teachers have "punished those who dared to speak out or call attention to themselves... (because) ...self-assertion arouses enmity," (Watanabe, 1973.) Unconscious, root assumptions about social role playing can work both ways: unconscious sentiments create negative, insensitive teachers and students who are unwilling to be conspicuous on paper or in the classroom interaction. The problem stems from conflicted, social role playing: as long as there is ordinary, cultural role playing, there is a barrier against learning.

The same kind of conflicted social role is the fabric of the ego-structure in the melted "old American" who doesn't cry or complain but who suffers in private: Novak (1972) explains that "To be inexpressive and not to need help is a way of proving...autonomy." Silence is a protective device, (Erickson, 1963). And for a broad spectrum of unmelted, White ethnics, the barrier of silence is similar: the Polish person is frequently taciturn, sullen, nearly speechless; the Irish person is taught to be inarticulate about pain: medical doctors and interviewers must take imaginative initiatives to discover anything about circumstances that are considered private, (Novak, 1972).

When the ethnic voice does respond to speaking out, it is frequently in racist terms: "When Agnew referred to 'Polacks' and called a friendly newsman jokingly, 'a fat Jap,' he was...doing exactly what people do everyday in America. But *not* on television. (*All in the Family* is to reality as Andrew Sisters are to sex.)" When racist assertions are made by pupils, the pupils quickly learn it is improper to voice what they think are deeply felt views: teachers harass with "humanism" and "progress" as punishments to avoid prejudice; the result is personal guilt. The student playing out the ordinary role of family in the classroom is made to feel "unenlightened, stupid, immoral and backward," (Novak, 1972). Social barriers to learning come from taking teachers' and students' everyday roles into the classroom.

The obvious consequences are silent withdrawal from learning, lack of confidence in ability to learn, and nervousness in connection with classes. Overt harassment with browbeating abstractions erects what Lozanov (1978) calls the "intuitive affective barrier" to learning: "the intuitive affective...barrier rejects everything which fails to create confidence and a feeling of security." In place of confidence, there is fear to try and insecurity in association with learning. When teachers preach humanism but live otherwise, an atmosphere of uncertainty is unconsciously generated. In my view, discomfort felt about serious social role playing does not always take overt forms. Instead, this discomfort is displaced and disguised in subtle slights against academic abilities of students: hints are dropped that students are slow to catch on, or the subject matter is difficult, or errors and mistakes are the only important things to notice. Mina P. Shaughnessy's *Errors and Expectations, A Guide for the Teacher of Basic Writing* (1977) makes clear how the usual approach to writing falls into the trap of obsessing students with their own mistakes rather than positive practices. Negativity is an old friend of insecurity. What perpetuates itself is an idealization of negativity. Though negativity may be abhorrent, it becomes the expected way of doing things.

Education can be boxed in by taking social roles too seriously.

The negativity of guilt, focus on flaws, and obsession with errors in perception create unnecessary tragic dramas. No one needs to be a scapegoat of societal entrapment.

"Angels fly because they take themselves lightly," not with heavy seriousness. Comedy and joyfully successful classes follow similar lines. In both, the point of view is positive. Anything can happen, nothing is inevitable, and a feeling of liberation is possible. While philosophers can become kings, where enemies can become friends and problems are conquerable, lighthearted role playing accompanies it all.

This kind of positive atmosphere can spontaneously generate itself in a classroom. It's the kind of class you remember with a smile and warm feelings, where everything seemed to happen effortlessly: everyone felt free to participate; there was no self-consciousness; potentially painful conflicts dissipated in laughter; learning was at an all time high; issues in writing were naturally connected with the living exchanges of people.

I've seen it happen in some of my classes and I've wondered why. Why was the best learning associated with the most joyful, unself-conscious groups? Part of it was my attitude; part of it was the group's attitude. I expected great learning; I got great learning. I liked the personalities in the class. I accepted all points of view as right all of the time because a person can only speak from his or her own personal history. If we agreed; it was wonderful; if we disagreed, it was fun to look at both sides. I was playing the role of teacher lightly, I was not playing my heavy personal self: what might lead me to cringe outside of class, I found painlessly eccentric and even delightful inside class. Archie Bunkers were the charm of the class. I received the same tolerance in return and students extended tolerance to their classmates. The students were playing at their roles as learners, laughing at their own mistakes, and loving the whole process. I loved what I was doing; the students loved the class.

Beyond lively classroom interaction, similar things happened when I encouraged students to assume different personalities in writing. It didn't matter what the different personality was. It only mattered that a student felt the role was different. If the student was quiet in person, the student as a writer became loud on paper; if timid, authoritative; if goody-goody, a devil's advocate with the pen. Under role playing, students have a new set of glasses to look at the world through. Old things feel new. The fear of grades, dishonor to self, worry about spouse or parents are not in the forefront of attention.

When I enrolled in a foreign language class at the Lozanov Learning Institute of San Diego, I found role playing again, but this time as a student. This experience as a student convinced me that what happens spontaneously to produce a positive and pleasant learning environment can be consistently, repeatably, and deliberately set up. Solid empirical support exists for it as well.

The magical chemistry of positive group dynamics can be an everyday part of a class. Heavily serious social roles need not be brought into the classroom in raw and confusing ways. The teacher need not be a tragic fury hounding the mistakes of students. Students need not feel that their personhoods are at stake.

Mask of Authority

Any English teacher knows the value of a poet's mask. The mask allows the poet to speak with a voice of authority and significance. In this role, words are easy, clarification of life is possible, and no one is bullied. Seductively, subversively, unobtrusively, subliminally, the audience is drawn into the poem. Vicariously, the reader lives in the poet's world by an act of imaginative projection and identification. When teachers speak with tones of significance, the tone sets up an atmosphere like that created in literature--students vicariously identify with what is being said. The act of imaginative projection alone creates a significant 5% improvement in learning, (Schuster & Wardell, 1978). The tone of authority is worn easily enough by English teachers. Anyone meeting an English teacher for the first time knows on some level that there is something special about the tone of this kind of person. After living in a rich medium of authoritative literature for a number of years, the tone rubs into the voice of the English teacher. And we should not only recognize it but value it, knowing its positive power. Classroom authority is a role: it should be seen as such, played and enjoyed.

On other levels, the whole question of authority should be known and examined. We've seen the professional prestige of a speaker make a lecture audience favorably receptive. But for the classroom, establishment of authority is largely unconscious and haphazard. Social introductions are neglected: the class simply begins. In correlating the techniques used by successful teachers and therapists, Georgi Lozanov found the same pattern of introduction: the students and clients knew the credentials, the length of experience, and had heard about or read about the past successes of these professionals. Lozanov (1978) then inferred that knowledge of authority sets up a field of positive suggestion for the learner: the learner expects to do well and does well. Both know what is expected of the role and play their parts well.

At the Lozanov Learning Institute of San Diego, private conferences are held by administrators with prospective students before the start of any class. During that conference, past successes of individuals and groups of students are mentioned with lively and concrete anecdotes; literature documenting past success is handed out. Before the first class begins, an administrator is present to formally introduce the teacher's background and degrees. I couldn't help but think about how administrators usually show up in traditional education to grade the teacher and incidentally to put both students and teachers on edge. Not very assuring to the students. But I think, despite the drawbacks of traditional schools, it is nevertheless possible to observe social amenities. Teachers should introduce themselves formally, with their backgrounds, credentials, and point of view. It sets the stage for playing the part.

My own experience affirms the value Lozanov places on this formal gesture: when I've neglected the gesture, I took a chance on starting the class on a negative, nebulous footing, but when I introduced myself, the credibility and reliability of my role was assured.

Important too in the initial setup is the avoidance of perfectionistic or authoritarian entrapment. Teachers who create images of themselves as perfect or godlike have their nemesis in nonproductive challenges to authoritarian airs. On the other hand, those who come across as knowing but fallible, who honestly and willingly share the information in their possession, create realistic and open-ended atmospheres conducive to learning. If students know you can teach ducks how to sing, it works in your favor; if you claim perfect pitch, that claim borders on the wrong side of the miraculous. It overplays the role.

The character of authority has tremendous emotional power that can be registered in electrical changes that take place in living exchanges of information, (Lozanov, 1978). When in the presence of a person considered inferior, there is a considerable drop in that person's power of suggestion. "But in the presence of a person who creates an impression of superiority of any kind, there arises...a tendency of subordination, which places one in a state...receptive to that person." Physical strength, social position, skill, tone, brilliance, credentials, and experience all create images of authority and result in expectant attention, willingness to imitate, and high recollection.

While no one likes a bully who will beat you up with abstractions, you might get away with it if you wore a cape with "truth" painted on your back. But the surest way to succeed is without affectation. In Lozanov's (1978) investigations of successful teachers, he discovered that they shared similar character traits: they were "always sincere" and they possessed "a great love for (their) profession and (their) fellowmen." Sincerity and care are communicated by body language, intonation, even attention to dress. Uninterested tones, body language that suggests disinterest, or inattention to dress can counteract reception of information: a person may literally say the right things but contradict the message by peripheral gestures that say I don't care or I-don't-like-myself-and-the-subject-matter. The background setting of a presentation is at least as important as the message in the foregournd, (Evans, 1980).

The effect of playing the role of authority positively is to put students at ease. I classify the teacher's role as a kind of "straight man." You can't have two comics on stage at the same time. If the teacher is too crafty, or too funny, or too overwhelming, the students are hampered. When they are at ease, they have all the freedom of children to play and explore the issues. Lozanov (1978) calls the effect of positive authority on students "infantilization." "It is a universal reaction of respect, inspiration and confidence which increases the perception, memory and creativity functions. In infantilization, perception, memorization and creative imagination seem to return...to the more favorable level of the early age periods. It is well known that the child can memorize much more information than the adult. For a child, every new concept reveals new worlds." This childlike role playing is a normal reaction to people who are felt to have benign authority. It explains a number of spontaneous classroom successes where the best learning accompanies the most playfulness in students. When the teacher is consistently tolerant and kind and thinks of his or her students as capable and eager, there is a real alternative to the barriers that follow heavily serious social roles.

But it is not always easy to play these parts. The roles can be kept consistently alive by the adoption of class names. Heavy social role playing can be left outside of the classroom by adopting a new name and identity different from your real personality. In English literature classes, the names of the writers being studied or the critics who are discussed would be obvious choices. In a grammar class, either the names of the characters in "Grammatica Unexpurgated" or the names of grammatical or syntactical terms themselves. Not only will the names become permanent possessions of everyone in the class, but, more importantly, the everyday social inhibitions that are associated with real names and personalities will be left at home. In John Evans' (1980) terms, (the terms of a Lozanov teacher who uses the name Miguel Director in class), the students then have a "buffer" between themselves as sensitive personalities and their student roles: students may make academic or social mistakes without jeopardy to their personal feelings. Teachers can too.

With a new name you also take on new eyes. It is like a fresh start in life where old realities can be experienced with new terminology and attitudes. In foreign language classes, it is easy to understand that all feelings are expressed through a new vocabulary. In a similar way, all classes are really language courses offering special terms to look at older, familiar things. When a teacher is apologetic about bothering students with new terms, the attitude will negate acquisition of a new vocabulary. Since we normally use only 4 to 6% of our minds, there is plenty of room for learning vast amounts of materials.

As new names in themselves foster childlike approaches to learning, fresh approaches can also be nourished with the use of games as well. For example, to discuss issues while sitting on the floor concretely recreates one of the circumstances of play from childhood. Singing a rule is not only memorable but fun. Does anyone ever forget a singing commercial? The teacher's own creative resources can invent playful learning games, card games, telephone games, telegram games, to creatively rehearse and repeat the information that needs to be learned. Information can be integrated with the medium of play. As overcriticalness in the left brain is occupied and decoyed by the medium of play, the information is absorbed by the older right brain that stores experience on a long-term basis. The results are a relaxed class that is a pleasure to take part in and a useful class where little or nothing is forgotten.

When play and subject matter are related, the subject matter gains in importance through a network of experiential associations helpful in recall.

How a book is presented has been shown to have powerful consequences on understanding and memory. J. Das, R. Rath, R. S. Dass (1955) created experiments where excerpts from unknown poems were ranked in order of value. When students were told the authors of the poems were important with important things to say, the suggestion had a positive and statistically significant influence on a favorable judgment of the poems, willingness to understand, and ability to recall. Tragic poets were not allowed in Socrates' *Republic* because they had too much power, a power stemming from their use of literary techniques. Literary techniques have the power of make-belive or verisimilitude: in the make-believe world of a story you not only experience abstractions as if they were real but you also experience a wealth of associative connections among character, setting, dialogue, and plot. In comparison, an essay is much less easy to recall because the connections are only logical. Logical connections activate the left brain which can store things only for a short time. But the long-term capacities of the right brain are activated by real or make-believe presentations that have all the color, spatial complexity and connectiveness, of life. A story form has a benign authoritative power.

A visual artist is a master of portraying these kinds of connections among lines, colors, and forms. Good fiction is ingenious in its perception of unity in coincidence, in juxtaposing coincidences of physical appearances and behavior, of setting and metaphor, of form and content. A teacher can play a similar role as an artist who makes use of coincidence. As accidents reveal the feelings and personal histories of students in the normal course of classes, the artist-teacher connects the circumstances of the students with the information of the day. In this way, the teacher becomes a literary midwife of memory. As William James (1891, 1952) has pointed out, "the more other facts a fact is associated with in the mind, the better possession of it our memory retains."

Isolated words, syllables and numbers are easily forgotten. A small associational link makes a word more durable. When a word is connected to a background of feeling, a context of meaning, when a concept is made experientially concrete, it is durable. As students play with concepts, they create associations: to say something creates an association with the voice; to hear other students vary a concept creates associations with the ear; to write a concept creates associations with the hand. Finally, when wholistic presentations are complete, the subject matter of a class is associated with the full spectrum of interpersonal communication and the individual's whole mind and musculature: "...the more numerous the associations, the greater the paths of recall, (James, 1952).

Learning with Music

Imagine yourself transported to ancient Greece, about 1800 B.C. You are at the Panathenea in Athens for a festival held once every four years. A lyre plays softly. Soon a poet begins to chant. It is not like ordinary talking with a jumble of irregular sounds. The poetry sounds like the soft beat of a drum, or a relaxed heartbeat. Although you sit for hours, you are unaware of time passing and you experience no fatigue.

You are, of course, astounded that the entire *Iliad* could be remembered by the chanter. You are further surprised that when a friend asks you about the story, you remember a great deal of it as the rhythm, in dactyls, recurs in your mind, (Jaynes, 1976). The same kind of pleasant experience can be re-created in the classroom.

During a concert teaching session, students can relax while classical music plays in the background. As the music plays, the teacher chants the subject matter to be learned, alternating his or her voice between intimate whispers and louder, authoritative tones. The teacher looks like a serious official from a forgotten ancient ceremony. The students do not seem to be expending any effort. After a second concert, when tested, students show assimilation of most of the information on a passive-recognition level. There is no evidence of fatigue and even evidence that students feel rested.

When a reader looks at ancient writers for the reasons, the reader will find unobtrusive statements in John Milton's "Of Education" about the uses of music for relaxation to dispel fatigue. If you look at medieval times, you will find rhythm used in monasteries in both the foreground and background of a priest's studies. (LeClerq, 1981). You will also discover that it was an ordinary feat for a monk to memorize dozens of book-length works! Looking at Plato and Aristotle, you find allusions about the power of music to evoke feeling, to harmonize the soul and the body, and to form personality, (Scott, 1933). If you look at the works of Pythagoras, Hermes Trismagistus, or Kepler, to name a few, you read a tradition of authors credited with creating musical rhythms that harmonized mental rhythms, (Mishlove, 1975).

More recently, electrical monitors of brain rhythms record that brain waves do synchronize with music rhythms; with classical music there is a paradoxical ef fect: alertness improves under the relaxed circumstances of attending a concert, (Balevsky, 1975). In Sofia, Bulgaria, and elsewhere, Georgi Lozanov (1978) has used music as a successful part in learning that can produce average classroom scores above ninety percent. Music can also be used when students take tests, during class breaks, when they are writing, in lectures, and in other contexts. It is a pleasant, provocative technique. The trouble with understanding the use of music as an aid in learning is that methods are difficult to reconstruct and a detailed theory explaining its use has not been put together.

Pythagoras, one father of music's relationship to the mind, attempted to discover the secret wisdom of the Egyptians which he was later to use in creating his theories. "We are told that the Egyptian priests with whom he studied were jealous of admitting a foreigner into their secrets. They baffled him as long as they could..," (Mishlove, 1975). Jane Bancroft, Sheila Ostrander, myself and others may have experienced similar initiation rites, (Ostrander et al, 1979). One institute advertises classes in teacher training. But when I tried to enroll, administrators said they didn't understand what I wanted. After I was coached and encouraged in learning as much as I could at another institute, the interviews I conducted were interrupted. I asked questions about technical generalizations. I received cloudy answers but promises that the father of the method would personally answer my questions. The father was detained in a foreign country, somewhat mysteriously. I attended a conference where the theory was supposed to be explained. Some new information came out. Not the details. Then, as I was leaving the conference, one administrator somewhat strangely said with a smile, "I bet even you couldn't figure it all out." So I became a biofeedback technician to find the answers.

Sometimes music is made much of by those who practice it; other times music seems to be downplayed. Lozanov has classified his use of music as a mere "ritual placebo" by declaring that different psycho-

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therapeutic methods frequently yield the same results. Since methods vary, the inference is that the method itself is merely a comfortable, security-creating mechanism that pleases, a "placebo." "And the method--no matter what kind it is, hypnotic, relaxing, etc.--is usually a placebo factor, an external objectification of the expectations of the patient, and a suggestive ritualization" (Lozanov, 1975). Rituals and methods are created by cultural expectations and the teacher merely supplies what the student expects. Elsewhere Lozanov claimed that a second concert was used simply because 1) the students said they preferred it; 2) the second concert eliminated fatigue that normally follows attention to enormous amounts of information. These assertions all feel realistic and nonmystical. After all, his method came out of combinations of observations from successful learning systems that were streamlined for greater practical effectiveness.

Sheila Ostrander's *Superlearning* (1979), on the other hand, places enormous mystical significance on the function of music to aid learning. Ostrander bases her emphasis on Jane Bancroft's "Discovering the Lozanov Method" (1976) and the suspicion that the critical ingredients were witheld from Westerners visiting Bulgaria. The sense of importance in music and rhythm was possibly motivated by a very provocative sentence in Lozanov's *Suggestology* (1971, 1978), "Rhythm is a basic biological principle, a reflection of the rhythms in nature."

The same rhythmical hypothesis is found in Pythagoras, Hermes Trismagistus, Kepler and others where the musical scale is related to the position and movements of planets. Looking elsewhere for explanations more understandable for modern minds, Mishlove (1975) has pointed out there is an exact correlation between the dominant electromagnetic frequency of nature and the electromagnetic frequency in the brain rhythms of experienced meditators. The electrical frequency of the earth, known as the Schumann resonance, pulses at 7.5 cycles per second. The same frequency is midway between alpha and theta brain waves, (Mishlove, 1975). When classical music is played, brain waves of alpha and theta dominate with all the benefits of rest and alertness that meditation offers.

Yet Lozanov states that none of the hypotheses attempting to explain the uses of rhythm have been empirically demonstrated. Practically, again, he states that music, nevertheless, has been observed to have the useful effects of a placebo with durable memorization, creating suspense and positive expectation as well as reduction in fatigue. I think the truth is somewhere in between.

In "Results of the First Suggestopaedic Foreign Language Courses in Hungary," M. Rabecak (1975) makes this interesting observation, "During the course we had a chance of truly assessing the effect of the music sessions. For instance, a student, who for some reason or other had missed one music session, failed to master the material given in it in such a way as he would have mastered it had he attended the session. The gap caused by the loss of this material was felt by him throughout the course." I, myself, made this same observation at the Lozanov Learning Institute of San Diego where a pilot who missed concert sessions (unavoidably) had the least useful vocabulary in the Spanish class we both attended as students. What needs to be clarified is how the concert sessions work and why. They can be important aids in learning. Students and teachers are more successful at both learning and teaching when they have a grasp of the reasons why. Unfortunately, details of the theory have been left out of the Bulgarian literature.

I think there is both more than ritual placebo and less than vague mysticism about concert learning. "In contrast to the sudden shock methods in medicine, continuous, monotonous, rhythmical effects can also engage the N.M.R. (nonspecific mental reactivity) and can result in overcoming the anti-suggestive barriers very easily," Lozanov (1978) mentions.

The implication here is that music disposes part of the mind to a favorable reception of information while inhibitory thoughts and critical objections are both occupied by attention to rhythm and bypassed. Cautions are mentioned that totally monotonous presentations can produce light hypnotic trances where psychotic episodes may occur. The problem was circumvented by using variety in the tone of voice during a concert presentation. I think this caution is partly intended to discourage experiments as a part of initiation hazing. In my biofeedback training, I discovered that any kind of relaxation--tensing relaxing, slow rhythmic breathing, for example--can loosen a person's old self-image: this experience can feel like dying because the self-image can be changed; any relaxing can also bring back early memories, some of which may be unpleasant. When these experiences are expected, they are not fearful but occasions for discovery.

A First Presentation

There are two common variants to a first concert presentation of information. Both variants refer to the first concert as an *active* concert presentation. The older variant has students relax and breathe slowly and rhythmically. As the students relax and read a text, a teacher reads an inventory of terms and definitions: for example, " *noun* , person, place, thing" (four seconds of reading by the teacher in a loud authoritative tone; the words are read rhythmically as if a nursery rhyme or song were being chanted). The reading is followed by a four-second pause while the students repeat the reading mentally. Then the teacher reads a second term-definition (this time in a soft, whispering tone with rhythm). Then, a third term-definition (this time in a normal tone with rhythm). Then the cycle repeats itself. In this older experiment, no music was used in the background. The final result was an 11.4 percent increase in memorization compared with an ordinary reading by teacher and a silent repetition by student, (Bolevsky, 1975).

A newer variant (Lozanov, 1978) for a first presentation uses classical Romantic music in the background (Haydn, Mozart, Handel, Beethoven, Tchaikovsky, Brahms, Chopin) with only two alternating tones: louder-authoritative alternating with a softer-whispering tone. In addition to alternating tones, the words to be learned are read rhythmically or melodically as you would read regularly stressed metrical verse, nursery rhyme style--da dum, da dum, da dum. Some attempt is made to mimic the melodic line from the classical music in a strange, harmonic relationship. The relationship is not exact. It is not important that exact perfection is attempted. It is only important that the tone be varied and rhythmic stresses are used. It takes lots of trial-and-error practice to be comfortable with this. Ostrander (1979) suggests that largo movements were preferred in early Bulgarian experiments. I tested this hypothesis out, myself, by listening to largo movements while I was monitored by an EEG biofeedback machine. What I discovered was that largo movements produce a sleepy dominant theta brain rhythm. When whole classical compositions are used, a more balanced and complete brain wave configuration is produced: roughly equal alpha (alert), theta (twilight relaxed), and beta (critically alert) rhythms are present, as are present when people are relaxed but fully awake. Stephanie Merek (1980), a Lozanov teacher, pointed out that only whole classical compositions are more recently used in Lozanov classes because they reach and synchronize the whole mind and reproduce the entire "dynamics of inner life...a full 24-hour emotional cycle." Parts of compositions work; whole compositions work better. Also with music as a background, rhythmic breathing is unnecessary: the music itself relaxes the listener.

The use of toning in itself also has a practical significance. When speakers are convinced of the importance of what they are saying, they speak with the tone of *significance* . There are persons within all of our acquaintance who say trivial things in grand tones: we listen with rapt attention. You may disagree with William Buckley's positions, for example, but you take in what he has to say. Significant toning is a habit of old and successful speakers of all kinds. In Lozanov's terms, tone speaks subliminally to our older, emotional brain in ways that are memorable and durable.

Toning and classical music are helpful companions on this level. If you listen to a good opera singer and then listen to a jazz singer, you will immediately be taken by the nobility and grandness of the operatic voice. In the classroom, intriguing softness and louder authoritative tones reinforce the grandness and nobility that are communicated by classical music. The subject matter being studied then takes on the authority, by association, of a classical world of meaning as well as the authority of the person speaking the information.

Lozanov refers to the part of the mind addressed by "tone" and classical music variously as Nonspecific Mental Reactivity, the old brain, the subcortex, and the unconscious or paraconscious. In Western research, we come close to the details needed to complete a full picture of why a teaching concert can work in the way it does. Thomas Budzynski, "Brain Lateralization and Biofeedback" (1979), describes the right brain or the non-dominant hemisphere. In studies with brain-damaged adults, it was discovered that the right brain processes and responds to "auditory intonation contours," material delivered with "emotion," material presented in "short phrases" and in "melodic patterns." Also words spoken "at one-third the normal rate and punctuated with frequent pauses also improved comprehension" in the right brain. This line of brain lateralization research also typically describes the vocabulary of the right brain as equivalent to a "14-year old" with the "syntactical ability of a four or five-year old," (Shapin & Colby, 1979).

What is clear from first-concert presentations is that they use all of these techniques addressed to the right brain.

An example of one Spanish language script handout at the Lozanov conference illustrates the method:

El aduanero:
Usted lleva muchas maletas, *You carry* a lot of suitcases,
muchas *cosas* . a lot of *things* .
Entiende? Do you understand?
Son *objetos* personales? Are they personal *things* ?
No entiende. You don't understand.
Dios mio, cuantas maletas! My God, what a lot of suitcases!

The information is presented in dialogue form, written and read in short phrases, with intonation or feeling, pausing, and delivered in melodic ways. From Western research, we can deduce this kind of presentation is addressed to the right brain in the language it understands and in the form it prefers--the vocabulary of a 14-year old and the syntax of a five-year old with lots of repetition.

The text at the end of the book, "Grammatica Unexpurgated," is written in this dialogue form. In a first concert presentation, I suggest that classical Romantic music be playing softly in the background. Romantic music in this presentation is appropriate since the intention of reading slowly and rhythmically is to address the right half of the mind that responds most strongly to music and tones that are emotional: Romantic classical music is emotional in emphasis. Only the left side of the text needs to be read by the teacher as the students silently read both sides during the teacher's oral presentation. Later, the definitions will occur to the students when attempts are made to identify similar uses of words or sentence structures. Also a model of correct usage will be imprinted during the presentation. In this way correct usage is emphasized rather than mistakes and errors. It is not important for the teacher to worry about the length of delivery: each line is designed to be spoken in roughly three or four or five seconds. At the end of each line, the teacher can pause an equal amount of time. Stephanie Merek has recommended reading and pauses that attempt to follow musical phrases and musical caesuras. It works out similarly either way. Worrying about musical caesuras can be a bother. The right brain will hear it if the delivery is slow and rhythmic. Each scene is intended for a single lesson.

A Second Presentation

A second concert presentation, called passive in both American and Bulgarian variants because the students only listen with book closed, can be useful on many levels. One use is implied in the practice of using Baroque music (Corelli, Bach, Vivaldi, Handel, Couperin). Baroque music has an intellectual, left brain emphasis. The common practice here is orally reading a text in whole sentences, at a normal conversational pace without any special rhythmic effects or toning. I deduced that a second concert was addressed to the left brain from lecture information I was given by Thomas Budzynski (1980) as I went through biofeedback training. According to that information, the left, dominant part of the brain which is activated by logical delivery and tasks, pays attention to and understands information presented in a sequential logical order, in whole sentences, and at a normal rate of speech--neither fast nor slow. On another level, the simple fact of repetition makes a positive difference.

Each scene in the "Grammatica Unexpurgated" text is set up for a first concert reading. A break of a few minutes can follow a first presentation. Then I suggest following up the first concert with a second presentation of the same scene: this time use Baroque music in the background. As the music plays, simply read the scene in whole sentences, as you might normally read a lecture. The corresponding section of "Rules and Reasons" can also be added to this second reading. I suggest making this addition during the second concert because the second concert is addressed to the logical mind and rules make better sense in this context. If the books are closed during this reading, students begin seeing words, phrases and definitions mentally, as a natural act of imagination.

When both concerts are combined, we can see that the whole brain is addressed: the visual-aural and melodic preference of the right brain is addressed during a first concert; a second concert gives preference to the language understanding of the sequential, dominant hemisphere. By using two concert presentations, you have a method that touches the whole mind in a pleasant and relaxing way. If you cover enormous amounts of information, the students will experience no fatigue. If only the first concert is used, there is the possibility that the student will run into the "retrieval problems" of twilight learning. Twilight-learning, as explained to me by Budzynski, uses a technique similar to the first concert with similar phrasing and toning. The right brain may have learned, but it can't easily activate what it knows. Using both concerts, the retrieval problem can be overcome by addressing the whole mind. Following Galin's (1974) observation that the right brain corresponds with what Freud identified as the unconscious where informaton is "inaccessible to conscious recall," it is not difficult to deduce that the left brain acts as the adult-consciousness which has the ability to display and articulate what may not be consciously known--that is, both concerts allow full access to the mind, (in Shapin & Colby, 1979). The stage is set for the drama of the class where normal classroom activities can be created for active use of the information.

Concert presentations offer one exciting avenue for a rich network of mental associations, the more avenues of association, the greater the chances of recognition and recall.

Grammatica Unexpurgated

(A Sentence and Punctuation Grammar)

ACT I, Scene i

As we sank deeply	
into spaceage *chairs* ,	*noun*
we felt	
the *dull, orange* heat	*adjectives*
of the engines	
from the windows.	
We *were*	*verb*
warm and comfortable.	
The acceleration	
of the hyperspace drive	*preposition*
made us feel	
heavy and *calm* .	*adjectives*
At twice *the* speed	*article*
of light,	
the coloration of the walls	
turned	*action verb*
into a rich yellow.	
Closing my eyes,	
I remembered Mars	*pronoun*
looming up ahead of us	
like *a* giant, red apple	*article*
filling all of space,	
growing larger and more massive	
moment by moment.	
The blue, clean skies	
of earth	
seemed far away.	*verb*
I thought	
of the quiet moments	
in the forest	*preposition*
when greeness surrounded me	
with a carpet of moss.	
I felt *supremely* calm and confident.	*adverb*
It will be a new life, and	
I will have a new name,	
a new job, *and*	*conjunction*
new eyes to look at my former life.	
I opened my eyes to see	
that we were *approaching*	*present participle*
the space port;	
the white, decontamination light	
came on again,	

warming my hands and feet.	
The radiation	
did not kill germs;	
however , the light strengthened	*adverbial conjunction*
the natural mantle	
that protected the body's	
natural defenses.	
I felt ready.	
Customs Officer:	
May I see your passport?	*simple sentence*
I: *Of course* .	*Fragment*
Customs Officer: I see	
that you are a student.	
What are you studying?	
I: *I want to be a writer* ,	*compound sentence*
and I need to know	
the rules .	
Customs Officer: You've come	
to the right place. Grammatica,	
our world , was created	*apposition*
by writers.	
The saying here is,	
"The difficulty is	
that rules are simple."	
I: I thought the rules	
were difficult	
because they looked	*subordinating conjunction*
so complicated.	
Customs Officer: Yes,	
appearances can be deceptive.	
The truth is	
that the rules are easy.	
After all, if everyone	*introductory words*
were born knowing the truth ,	*set off by commas*
there would be more	
unemployment.	
Seriously ,	*introductory word set off by*
a great part of learning	*a comma*
is discovering its	
simplicity.	
Most people make life difficult.	
Life and learning	
can be as easy as putting	
a knife through warm butter.	
I: I'm going to like	
this world.	
Customs Officer: It will be	
as enjoyable as you	
make it.	
Have a good time.	
The transporter	
is waiting.	
While the magnetic shuttle	
gently descended ,	*dependent clause*
time seemed to stop or expand. The	

feeling inside my head was like the motion
of the shuttle on the outside-- *fast*
and slow at the same time . Memories flooded
my mind. I floated through them.
I felt as if I could write easily, *but*
I had no pen. However, I began
seeing my thoughts as solidly shaped
sentences. I even noticed the punctuation marks. "Something in the tone of
voice of the Customs Officer made words
visible," I thought. Perhaps, he was a
magician. *Kindness is magic* .

dependent phrase
coordinating conjunction
simple sentence

Later inside my room, I noticed there was a faint light
from *the floor*, *the wall* , and *the ceiling*
illuminating THINGS: every THING was
labeled with the same word, *noun* .
I looked around *:*
the word, noun, was woven into the
carpet in phantom script; noun was faintly
painted on the lamp, the wall, the ceiling,
the chair, the picture of a landscape, and
the portrait of a person. I felt like a
student Sherlock Holmes. Nouns must
mean persons, places, or things. O.K., I
thought, so I know what nouns mean.
So what. The doorbell was ringing.

punctuation of series
person, place, thing
colon: series of
explanatory items

A Voice: Do you need anything?
I: I hear a voice, but
  I see only an energy form.
  Who or what are you?
A Voice: I am a human creation,
  created for your use.
  I am a servant.
  I am a computer image
  engineered for your education.
  I have two identities.
  You must guess both.
  Your new name is
  Sherlock.
I: All right, all right, I accept my new
  identity as Sherlock. But I
  don't know why I should.
A Voice: The answer is simple enough.
  If meanings are handed
  to you in cut and dried forms,
  in sterile definitions only ,

appositive phrase set
off by commas

  you will think of yourself
  in the same way.
  In addition,
  you would not remember.
  If you figure me out,
  the act of guessing
  will help your memory
  as well as your imagination.

I: I understand.
I'll start guessing *contraction: I will = I'll*
from what I see.
I see an entity,
an energy form,
not quite a substance.
I see a state of being;
if your form suggests
your name, you are
a symbol of a
state of being.
A Voice: Yes, you have
half of my *meaning* . *verbal, called a gerund,*
I: You also swirl and move, *acting as a noun*
but you have no substance.
A Voice: My form is my content.
I: You, then, mean action.
You are not a noun,
but an action or being word.
A Voice: You have completely guessed my
meaning. I am
a symbol created for
communication;
my meanings are action
and being.
My name is
Verb-Predicate.
I: I think I am catching on.
What is your purpose?
Verb-Predicate: I was created to serve nouns.
Nouns become subjects when I make
them act or be.
"The *man* *noun: subject*
entered *action verb: predicate*
the room."
" *Sherlock* *noun: subject*
felt *being verb: predicate*
happy."
These are examples.
I: Grammar looks easy.
The *first noun named*
in the sentence
is usually
the *subject* .
The predicate
makes the subject
act or
sense or
be .
Verb-Predicate: Exactly. Subjects also
agree
with predicates.
I: "Agree" is a strange but
satisfying
word. Single *subjects*
agree with or
mirror
singular predicates;
plural subjects

mirror
plural predicates .
Verb-Predicate: You have noticed
the architectural principle
of Grammatica and
the grammatical world.
All grammar,
like this world,
mirrors everything else:
it is one unity,
one world.
Ancient astronomers said
the universe was constructed
in this way.
It may be.
At any rate,
grammar is.

"It," *pronoun* , a substitute for the *noun* , "universe"

(Editor's note: This detailed example is just the first part of the entire grammar book. Write the author for details.)

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Pourquoi vous n'avez pas pu apprendre dans le passé; comment vous pouvez apprendre dès maintenant
L'auteur raconte en détail ses propres expériences en Suggestologie et en Suggestopédie en tant qu'étudiant et que professeur. En même temps il lie ses observations personnelles aux écrits traitant du sujet et présente en détail un modèle pour faciliter l'apprentissage de la grammaire anglaise.

WARUM SIE nicht gelernt haben, und wie Sie lernen KÖNNEN
Der Verfasser schildert seine eigenen Erfahrungen mit Suggestologie und Suggestopädie beides als Student und Lehrer, verbindet seine Beobachtungen mit der Literatur, und legt ein ausführliches Beispiel davon dar, wie man das Lernen von englischer Grammatik beschleunigen kann.

PORQUE Usted No Pudo Aprender Y Cómo Usted PUEDE

El autor detalla sus experiencias con Sugestología y Sugestopedia, como maestro tan bien como estudiante, relaciona sus observaciones con la literatura, y presenta un ejemplo de como se puede acelera el aprender de gramática inglesa.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(3)

Sophrology and Sports*

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Barcelona, Espana

Summary of a book entitled:

Psicopatalogia del Deportista - Sofropedagogia Deportiva

(Psychopathology of the Athlete - Sophropedagogy of Sports)

by Jose L. Rodriguez Melendez

Abstract

Sophrology is a method of dynamic relaxation, that is similar to Suggestology in many ways. It was developed in Madrid in 1960 by Dr. Alfonso Lozano Caycedo. Like Suggestology, Sophrology has been successfully applied to teaching, curing headaches and minor anxieties and having beneficial psycho-hygienic effects in general. Sophrology has been used to train athletes with marked success. The Swiss Olympic ski team, Spanish track stars and other sports men and women have greatly improved their performances by using the psychological training methods of Dr. Caycedo and his colleagues.

In the first part of the book the author makes an exhaustive analysis of human psychophysiology. Mr. Rodriguez Melendez deals not only with the body scheme but also incorporates the different psychic elements which intervene in a person's psyche such as: emotion, perception, attention, vigilance, motivations, anxiety, fear, aggression, pain and anger.

In view of the fact that our interest is centered on the psychology of the sportsman or athlete and his possible training through "sofrologia" we shall begin directly with a summary of those chapters dedicated especially to this area. In principle, sport in general has specific characteristics which are different from other types of activity. The movements of an athlete evolve into something precise and significant. In reference to this, Prof. Osmel Martinez (Head of the Department of Psychology and Pedagogy of the "Escuela Superior de Educacion Fisica

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* Dr. Caycedo's current base of operations is a clinic he runs in Barcelona. I personally visited the clinic in 1978, and suggested to Miss Goma that Americans would be interested in learning something about Sophrology. Readers with questions and desiring further information should write directly to him: Dr. Alfonso Lozano Caycedo, Centro Sofrologica Medica, Avenue Generalissimo Franco, No. 558 , Barcelona, Spain.

Lala Goma is an independent researcher, not associated with Dr. Caycedo's clinic. She wrote this summary in a gesture of kindness and sharing with us, American researchers and people interested in new methods of learning. I'd like to take this opportunity to thank her profoundly for the work in preparing this article.–Dimitri Devyatkin y Deportes de Cuba") and Dr. Gunter Sthiler (GDR) affirm that in order for the athlete to perform the correct movement, he must obtain an image of it through clear perception, born of observation. This image can only be attained by the sense organs through sensations.

The movement is composed of three elements: space, time and dynamics. These are the configuration of sport, and sport, as an activity, contains a large number of psychological elements which must be studied. Thus, it is important to try to combine three types of training or preparation for the athlete: A) Technical, B) Physical, C) Psychic (usually given secondary importance). "Sofrologia" comes in as a method when one attempts to work with these three types of preparations simultaneously. This is especially true in inducing harmony between the mind and the body, particularly in reference to the evaluation (competition scores) the sportsman or athlete himself makes of his results in competition.

A noteworthy point when speaking of an athlete is realizing that before being an athlete he is an individual and as such has other human problems apart from those originating from sports. In addition, the individual enters the world of sports in adolescence, and the problems of adolescence are already well known.

If we take an overall view, we observe a series of accumulated tensions in the athlete which tend to affect his performance adversely. These tensions are due to personal problems, problems arising from the technical preparation, plus the problems that come to the fore at the moment of competition (insecurity, anxiety, the need to win, the time factor...). These are transformed into negative factors at the moment of competition.

In order to neutralize these alternations, the best solution is psychiatric or psychological treatment to attain a psychophysical integration of the athlete. This can be achieved through relaxation, used as a method to decontract the muscles and the psyche with the help of appropriate methods. The reasons for the application of relaxation methods in sports are multiple.

What in reality we are trying to achieve is a complete disconnection of the psychomotor process. To do this there are three different methods which we briefly outline below.

1. Analytic Methods a) Hatha-Yoga b) Jacobson Method c) Garda-Alexander Method

2. Global Methods a) Schultz's Autogenous Training b) Eric de Winter's Psychotechnical Training Method

3. Personality Reinforcement Methods a) Personality Reinforcement and Psychophysiological Integration

In this last mentioned method, investigation of consciousness, we find the existential possibility of a "sofronica" sphere, which is the principal contribution that medical "Sofrologia" makes to the study of human consciousness.

"Sofrologia" studies those chemical elements which produce modifications in the consciousness, the psychic processes which act on the human conscious and change it, and the different forms of physical action on the conscious.

In "sofrologico" methods used by Dr. Caycedo, who has applied these methods in sports in Spain and is the creator of medical "sofrologia", we observe oriental practices from which he takes his technique of DYNAMIC RELAXATION with its three levels based on: 1) Yoga, 2) Bhuddism, and 3) Japanese Zen.

"Sofronizacion" (the modification of the levels of consciousness) refrains from absolute suggestion because the first necessitates the rational taking over of the individual. "Sofronizacion" is based on persuasive language used as a favorable flow in the individual's conscious. These consciousness levels may be ordinary, pathological and "sofronicos" (which are those of interest to us).

We reiterate the differences existing between "sofronizacion" and hypnosis or absolute suggestion, since hypnosis techniques are based on the deviation of the subject's attention; while "sofronizacion" is achieved by relaxation, acquiring the necessary physical and psychic serenity. The subject in a "sofronico" state can follow perfectly the development of the sensations he is experiencing and the "sofrologo" does nothing more than point them out.

Let us now go on to "Sofrologia" as applied to sports. We see that thanks to this method the athlete can:

-Control his pre-competition emotion, anxiety and fear.

-Increase and maintain his concentration isolating himself from his surroundings.

-Achieve or reinforce his self-confidence, overcoming his insecurity in the pr esence of champions or wellknown figures.

-Overcome through personality training and reinforcement, the guilt and self-inflicted punishment feelings which produce a series of failures.

-Control aggression and violence precisely because of the feeling of confidence in oneself.

-Concentrate at a specific moment which demands concentration (shooting a basket, etc.)

-Learning to live positively and happily in his sport because he feels confident in fulfilling and training his personality.

-Going through training with the same intensity as during competition, for obvious reasons.

-Keeping up morale even after defeat or after committing an error.

-Increase of muscular efficiency, eliminating superflous tension and being able to recover automatically, consequently saving energy.

-Respiration control which makes possible an increase in output and saves energy.

-Letting himself be influenced more easily by the advice of his trainer.

-Bettering his relations with the rest of the team.

Nevertheless, Sofrologia is slowly coming into its own in sports. Without going into the success obtained in other countries, we can say that there are many "sofrologos" in Spain who are applying these techniques in sports with great determination, patience, interest and an undeniable scientific basis.

We mention Dr. P. de Vicente in Algeciras and Dr. Marcelo Palacios in Asturias. The former has trained a team of divers in the bay of Algeciras and has done work of a serious scientific nature on medicine in sports. The latter, has recently published a book which we recommend to all athletes and sportsmen. Furthermore, as head of the Club Covadonga in Asturias, he has been able to raise the handball team to the honors division, the volley ball team as national champion, a national gymnast champion, etc. apart from other accomplishments in swimming, archery and basketball.

Usually, the "sofrologo" is called in by the director or trainer of a sports group. The first thing he must do is ask for a meeting with the management and the technical staff to explain the meaning of "sofrologia" and how it is to be applied in this particular case. There are audiovisual programs in existence, such as that of Dr. Aguirre de Carcer which will be very useful as they are easily comprehensive. This is followed by a discussion to make all concepts clear. Most important is to let the trainer know clearly what the work of the "sofrologo" will consist of and how it will not infringe on his work.

I shall go on to describe the techniques which we consider most useful in "sofrologico" training for sports. In the following outline we have tried to group them in the order in which we perform them.

"Sofrologico" Sports Training (E.S.D.)

Simple "Sofronizacion" (static relaxation)
Progressive "Sofroaceptacion"
Seried "Sofrocorreccion"
Schultz's Autogenous Training with progressive "sofro"-acceptance
Sensorial "Sofrosustitucion" ("Sofroanestesia")
Dr. Caycedo's Dynamic Relaxation on its three levels

Caycedo's Dynamic Relaxation adapted to the particular sport being dealt with.

The latter part of the book is a further illustration of the training process used by Dr. Jose Luis Rodriguez Melendez with the Archery team of the "Federacion de Huelva" (Spain). It is important to know that this team in barely three years since its foundation was classified as national champion in June 1976; before this date it had participated only in the 1975 championship with mediocre results.

Six months of "sofrologico" training has sufficed to better their performance and to act as a positive influence in the lives of the athletes or sportsmen. The athletes themselves relate their experiences in the appendix of the book. These last few pages are further proof of the importance of applying a science like "sofrologia" to the athletes' training program.

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Résumé d'un livre intitulé *Psychopathologie de l'Athlète: Sophropédagogie du Sport*. écrit par José L. Rodriguez Melendez

Développée en Espagne dans les années 60 par le Dr Alfonso Caycedo, la Sophrologie ressemble à la Suggestologie à bien des égards. Tout comme la Suggestologie, la Sophrologie a été appliquée (et avec grand succès) à l'enseignement. Comprenant des méthodes de relaxation passives et actives (ou dynamiques), la Sophrologie a été utilisée pour former des athlètes, entraîner des champions de ski, d'athlétisme, etc., en Suisse, en Espagne et dans d'autres pays. De plus, beaucoup d'athlètes ont amélioré leur performance tout en utilisant des méthodes d'entraînement physiques et mentales basées sur la Sophrologie de Caycedo.

Sophrologie und Sport

Zusammenfassung eines Buches mit dem Titel *Psychopathologie des Athleten - Sophropädagogik von Sport*

Sophrologie ist eine Methode der dynamischen Entspannung, die in vielen Hinsichten der Suggestologie ähnlich ist. Sie wurde in Madrid im Jahre 1960 von Dr. Alfonso Lozano Caycedo entwickelt. Wie bei Suggestologie ist Sophrologie mit Erfolg auf Lehren verwendet worden, und man hat sie mit auffallendem Erfolg verwendet, um Sportler zu trainieren. Die schweizer olympische Skimannschaft, spanische Leichtathleten und andere Sportler und Sportlerinnen haben ihre Leistungen dadurch viel verbessern können, daß sie die psychologischen Trainierungsmethoden von Dr. Caycedo und seinen Kollegen benutzt haben.

Psicopatología del Deportista - Sofropedagogía Deportiva

Sofrología es un método de relajamiento dinámica, que es semejante a la sugestología en muchas formas. Fue desarollado en Madrid en 1960 por el Dr. Alfonso Lozano Caycedo. Como la sugestología, la sofrología se ha aplicado cor éxito a la pedagogía en general. Se ha utilizado la sofrología con mucho éxito para entrenar a los deportistas. El equipo olempico de esquiar de suija, los deportistas españoles y muchos otros hombres y mujeres han mejorado sus obras utilizando los métodos sicológicos de entrenamiento del doctor caycedo y sus colegas.

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Volume 6, Number 4 Winter, 1981

Published by the Society for Accelerative Learning and Teaching, Inc.

ISSN 0273-2459

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

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Back issues : $7.00 per copy, $12.00 per doubled copy. List of available back issues sent on request.

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Mailing Permit #190, Ames, Iowa 50010

Printed in the U.S.A.

J. of the Society for Accelerative Learning and Teaching, 1981,
6(4)

Intensive Tutoring Based on SUPERLEARNING

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Abstract

The author describes in detail his recent experience in intensive tutoring based on the book *Superlearning* with one Austrian student in English as a second language. Vocabulary tests were given at the end of each 2½ hour tutoring session; the student learned about 2000 words and phrases in 22 sessions and was able to communicate effectively in English.

I. Summary

From June 12, 1980 to July 19, 1980 I used techniques described in *Superlearning* (Ostrander and Schroeder, 1979) to teach English vocabulary to a native German speaker. The student, Mr. Viktor Kisza, had one month to learn English before taking up his new post in Tanzania. Because of the pressure of time, we agreed that our goal would not be to conduct a careful, pedagogical experiment, but rather for Mr. Kisza to learn as much English as possible. Accordingly, instruction was individual (one student to one teacher), and to save time we had to dispense with standard experimental procedures, such as a control group, a pre-course evaluation test and a post-course achievement test, useful though they would have been for research purposes. However, after every learning session we conducted vocabulary tests, which showed that in the 22 vocabulary sessions Mr. Kisza learned 2063 words and phrases. The average session lasted about 2½ hours; the average rate of memorization was a little over 38 words per hour. As the course progressed, Mr. Kisza and I spoke less and less German, and increasingly more English, so that by the end of the first 21 vocabulary sessions we were speaking almost exclusively in English. Therefore I had the chance to verify that he was rapidly learning to communicate, which after all must be the main goal of any teacher of a living language.

Before our intensive course, Mr. Kisza had learned foreign languages only with great difficulty and frustration. In contrast, during our vocabulary sessions he learned easily and with no stress; in fact, he usually came to me tired, sometimes exhausted, and left refreshed.

After 21 vocabulary sessions, we concentrated on grammar for 10 sessions. Then, at Mr. Kisza's suggestion, we tried another vocabulary session but using a variation of the method described in *Superlearning:* we followed the exact same procedures as before, but eliminated the relaxation exercise, breathing technique and music. To our surprise, and to Mr. Kisza's deep disappointment, he learned vocabulary just as easily and effectively as he had done with the relaxation, breathing and music.

Because of the adaptations made due to the pressure of time, the course can not be viewed as careful, experimental verification of the "Superlearning" method, but rather as an example of practical application of elements of the theory.

II. Background Information: The Student

Mr. Kisza, age 35, grew up in West Germany and has lived only in German-speaking countries. He is a Protestant Minister. Shortly before he and I met, he had received a reassignment to Tanzania; hence his need to learn English quickly, and his need to learn "how to learn" a foreign language, since he will soon be confronted with learning Swahili.

In the West German public schools, Mr. Kisza had never studied English. His first foreign language was French, then Latin and a little ancient Greek. About his high school experiences with French, he said, "It was my worst subject. I had really earned a '5' " (the failing grade, equivalent to an American "F"). In the beginning I had good teachers, and got "1's" and "2's" (American "A's" and "B's") and then an old teacher with methods out of the last century. It was pure torture. During that time I never worked hard at studying. On all French tests I had a "5" (American "F"). The teacher let me pass, out of pity and mercy, and I know it because he said to me, "I don't want to ruin your chance to graduate." "So he gave me a "4" (American "D"), the lowest passing grade)."

For six years Mr. Kisza studied French (more precisely, for six years he was physically present in French classes). However, hear the end of our 21 vocabulary sessions, he reached the point at which he knew more English than French; he began listening regularly to the English and French news broadcasts from Austrian Radio, and understood more from the English news than the French. (Austrian Radio broadcasts news in English every morning from 8:05 to 8:10, and in French from 8:10 to 8:15.)

In high school Mr. Kisza also studied Latin and Greek. For both languages, his final grade on the "Matura", the final high school examination in West Germany, was "4" (American "D").

Before our intensive course, Mr. K's sole instruction in English was about 20 days at the Viennese branch of a well-known, large, international chain of private language schools. The experience left Mr. Kisza very dissatisfied.

At the beginning of our course, Mr. Kisza and I discussed his goals. Mr. Kisza expressed his openness to experimentation, and gave me permission to write a report using his name, but we agreed that it was urgent to begin as soon as possible. Accordingly, I decided not to take the time to administer a formal test of his prior knowledge of English, useful though it may have been for later verification. However, based on my nine years of teaching English as a foreign language, and my experiences writing two textbooks, and training language teachers, I did not hesitate to make a rough estimate of his vocabulary at the beginning (absolute maximum 550 words, more probably 350 to 400 words), and his grammar (virtually nil). Mr. Kisza could say only the simplest declarative sentences in the present simple and sometimes the future tenses (e.g. "This is a table," "I will want coffee".) He could not use "do" in questions and negatives ("Do you want brandy?" "Are you interested?" "No, I don't." "No, I'm not."), could not use the comparatives (pretty, prettier, prettiest; beautiful, more beautiful, most beautiful), had little control over word order and idioms ("Next week comes she to home.") etc. etc.

III. The Course

1. Textbook

Since we had no Suggestopaedic or "Superlearning" textbook, we used one of the livelier standard texts for German-speaking adults, *Lebendiges Englisch* by Hoffmann (1976). Before the course began I asked Mr. Kisza to read through the first few chapters and decide where he preferred to start. He chose Chapter 6, so the first two lessons, the introductory lessons, were devoted to a quick review of the material of Chapters 1 through 5; they include simple grammar and a vocabulary of about 275 words and phrases. The text is a two-volume series, with 30 chapters in each volume; we ended the course at Book II, Chapter 7.

2. Time and Place

The times of our meetings varied, sometimes mornings, sometimes afternoons, sometimes evenings. However, the place was constant: always in my study at my home. The room is quiet, and we were usually able to work undisturbed.

3. Procedure

Instruction was on a one-to-one basis: one student to one teacher.

We generally followed the procedure outlined in *Superlearning,* Chapters 7 and 8. However, we used "Joy of Learning Recall" only in sessions 2, 5 and 10. After session 5 Mr. Kisza was so impressed by his own successes, and so encouraged, that his motivation grew and the "Joy of Learning Recall" became unnecessary. That is to say, Mr. Kisza experienced the well known "snowball effect".

In session 10 the "Joy of Learning Recall" was merely a quick "pick-me-up" because the previous day Mr. Kisza had memorized only 97 out of 104 words, but we had wanted to break the psychological barrier of 100 words per session, which in fact we did: in session 10, Mr. Kisza learned 109 out of 112 words.

Occasionally Mr. Kisza was able to do some preparatory work at home, reading parts of the next chapters and writing a list of unfamiliar words (see Table 1). Usually, however, he saw the text for the first time in our lessons.

Briefly outlined, a typical session was as follows: first Mr. Kisza read the text aloud, and then tried to translate it, telling me which words were new and unfamiliar to him. I wrote down the unfamiliar words in two columns, English and German. Then I folded over the German, so Mr. Kisza saw only the English column. He read the English word aloud and gave the translation, so we tested his passive vocabulary (the ability to recognize the meaning of a foreign word when seen or heard). While he was reading the English list aloud, I wrote down all the words he found difficult, and we reviewed those difficult words, often discussing the etymology. Then we did relaxation exercises, in both English and German, relaxing each part of the body, starting with the toes and progressing up to the head. Next we had a "concert session" using the breathing techniques and music described in *Superlearning*, Chapters 7 and 8. Mr. Kisza slowly came out of the learning state, and then we conducted a short test: I said the German translation and he told me the English word, so we tested his active vocabulary (the ability to produce the foreign word when given only the translation).

To aid memorization, Mr. Kisza associated the new English words with Latin and Greek roots, rather than with lively scenes, mental pictures or German words.

For conversation, Mr. Kisza had lessons with another English teacher, usually about 4½ hours per week, frequently doing exercises which I recommended.

As the vocabulary lessons included very little grammar, we followed the 21 vocabulary lessons with 10 grammar lessons, using the more traditional approach of explanations and drills. Mr. Kisza made rapid progress in grammar, in part because he knew Latin and in part because he had read, heard and spoken correct English sentences during our vocabulary lessons.

IV. Results

According to the tests at the end of each session, in 21 vocabulary sessions, with the average session about 2½ hours long, Mr. Kisza learned 2063 words. The average was 94 words per session, or 38 words per hour. This includes total time of the lesson, i.e. including time for chatting and general conversation in English and German, about 2 hours for grammar and 7½ hours for the tests. Details are in Table 1.

Mr. Kisza learned without stress. Very often he came to me tired, if not exhausted, and left refreshed.

A subjective evaluation may be useful, since we could not allow time to test, quantify and objectify the final results. For the period of the course, Mr. Kisza retained and was able to use over 98% of the material in his passive vocabulary and over 85% in his active vocabulary, judging by the conversations he had in the vocabulary and grammar sessions. Mr. Kisza was thus able to put the new words into English sentences to express himself — though with mistakes, and sometimes slowly. Nevertheless, by the end of the course he could say in English everything he wanted to say, and could understand everything I said when I spoke to him as I normally do to advanced students, students who have studied English with good teachers for at least five years.

In session 19, Mr. Kisza asked me a question about Malta, which happened to be the subject of one of the textbook chapters for that day. I opened *The Penguin Encyclopedia of Places* (1971) to the entry for Malta. He read it aloud, and we were both pleased to see that he knew approximately 90% of the words of the text (56 out of 61 in a typical paragraph). This is in accordance with the generally accepted theory that a student who knows the 2000 most important words of the English language should know approximately 90% of the words in an average text or average conversation. (See, for example, E. Weis, 1964.)

Table 1

Session number	Total time in minutes[a]	Number of words[b] student prepared at home	Number of words[b] presented	Number of words[b] learned (active vocabulary)[c]
1	85		24	24
2	98		33	33
3	92		44	44
4	116		58	58
5	152		73	72
6	139		76	76
7	194		89	80
8	172		87	83
9	203		104	97
10	108		112	109
11	185	28	120	114
12	124		116	101
13	155	70	131	124
14	100		75	75
15	172	50	113	110
16	interrupted			
17	200	40	146	146
18	186	75	130	130
19	204		112	102
20	190	45	104	104
21	180	50	136	131
22[d]	172	25	151	151
Experi.	140		100	100
TOTAL	3367 min. 56 hrs., 7 min.		2134 words	2064 words

a. "Total time" includes not only actual learning time but also general conversation in German and English, 113 minutes for grammar, and 7 hours and 34 minutes for testing. This is in effect the total time Mr. Kisza and I spent in our "classroom," excluding the time spent chatting before opening our textbooks and again chatting just after each day's test.

b. "Word" means "word or phrase." For example, "to take a trip" was counted as one unit. The student himself had prepared these words at home before class and wanted to learn them.

c. For passive knowledge, the result was almost 100%. That is to say, at the end of the course Mr. Kisza could recognize and translate into German almost every one of the 2134 words presented. The number of words he could actively use was slightly less than the number he could recognize passively.

d. Session 22 was a make-up for the interrupted session 16. The total number of vocabulary sesions was therefore 22, including the experimental session.

V. Observations

Two particular aspects of the course seem to me worth special discussion: the effect of fatigue, and the effects of the student's expectations and habits.

To my surprise, fatigue did not prevent Mr. Kisza from memorizing words at speeds far above normal. For example, in session 12 both Mr. Kisza and I were very tired, but he learned 101 words out of 116 words presented. (That is, he acquired 116 words for his passive vocabulary, and 101 of them for his active vocabulary. See Table 1.) An additional difficulty during this session was that some of the new words were business words, such as "turnover", "overhead" and "assembly line", which are rather irrelevant for the student and which described concepts somewhat unfamiliar to him.

In session 14 Mr. Kisza was so tired that he requested we learn only 75 words. In this instance Mr. Kisza clearly underestimated his learning abilities, because he memorized all 75 words. The next day, session 15, Mr. Kisza was again very tired. He requested we learn only 100 words, but with the experience of session 14 in mind I presented him with 113 words. He learned 110.

In session 18 Mr. Kisza added a list of 75 words from his conversations with the other English teacher, saying they were difficult for him to remember. Mr. Kisza was so tired that he predicted he would fall asleep during the relaxation. He did not fall asleep, but memorized 130 out of 130 words presented.

In session 19 Mr. Kisza again arrived very tired. He had slept poorly, and his one year old son had woken him up very early in the morning. Nevertheless he memorized 102 words out of 112 words presented.

In the 20th session, on the morning of July 10th, he came even more tired than before. His son had woken him up at 5 a.m. He had prepared 45 words at home; he learned 104 out of 104.

In the afternoon of that same day, July 10th, he cam again, without having had a chance to nap between sessions, and he learned 131 out of 136 words. That is, despite his fatigue, in one day he memorized 235 words for his active vocabulary, and 240 passive.

In the 22nd session, which was a make-up of the 16th session (see below), Mr. Kisza was so tired that during the concert session he fell asleep. More precisely, he drifted in and out of a light sleep. Afterwards he said that he had not been able to concentrate on the words well because he had had to concentrate on staying awake. Nevertheless he remembered 151 out of 151 words. At the end of the session he speculated that sleeping lightly might even have helped him remember.

The second important point concerns Mr. Kisza's expectations. In session 16, on July 4th, we were unfortunately interrupted by a visitor just after we had read the chapters for the day and reviewed the new words, but before we had started the relaxation exercise. With great reluctance, we agreed to discontinue the session and make it up later. On the following day, July 5th, the phrase "to do without" ("I can't do without coffee in the morning.") appeared in the text. Mr. Kisza did not recognize it at all. I asked, "Haven't we had this phrase already?" Mr. Kisza answered, "I don't think so. I don't remember it." I persisted, "It seems so familiar to me." I looked it up, and was amazed to find it was one of the words we had written down and reviewed the previous day, but without the "concert session". The phrase had not only disappeared from Mr. Kisza's active vocabulary, it had also disappeared from his passive vocabulary (he could not translate "to do without" into German), but more importantly, he could not even recall that he had read the phrase at least twice — once in the text and once on my list — only one day before. He had completely forgotten the phrase.

The experience was repeated: several times, between the 17th and 21st sessions, we came across words and phrases which had appeared in the interrupted session but which had completely disappeared from Mr. Kisza's memory.

At first, I had assumed that Mr. Kisza's inability to remember words from the interrupted 16th session indicated the effectiveness of the "concert session" with the combination of relaxation, special breathing and music, but now I wonder whether the determining factor was not the "concert session" itself but rather Mr. Kisza's **habit** of memorizing during the "concert session" and his **belief** in its effectiveness. My change of opinion is the result of an experimental session which Mr. Kisza proposed, near the end of the course.

The experiment proposed by Mr. Kisza was that we eliminate the combination of relaxation, special breathing and music, leaving all other elements intact. We agreed on the following schedule: from July 14th to 18th grammar, on July 19th session 22 to make up for the interrupted session 16, from July 23rd to 28th grammar, and on July 29th the experimental session, 10 days after the last regular vocabulary session. For the experimental session the procedure was — except for the elimination of the relaxation, breathing technique and music — exactly the same as for the other vocabulary sessions: the student reads the textbook aloud, the student and teacher review the difficult words, the teacher reads the list of new words twice, and then the test. While I read the new words aloud, Mr. Kisza walked around the room and breathed normally, instead of lying relaxed, listening to music and breathing with the music. We tried only 100 words. The total time was 2 hours and 20 minutes.

To Mr. Kisza's astonishment, he memorized all 100 of the 100 words presented. In fact, he was more than astonished; he was noticeably upset by his excellent performance. Immediately after the test, Mr. Kisza said, somewhat embarrassed, "Today was really relaxed. Today I was thinking of myself, 'It would be good if I didn't memorize so many.'' I asked him what he meant, and he said, "Today I would be glad if I had forgotten some of the words."

In a letter written to me 14 months after the experiment, Mr. Kisza explained himself in more detail. He wrote, "The more words I would have forgotten, the better it would have been for the new method. I thought you would have been confirmed if I had memorized very few words during this experiment; it would have been the confirmation that music and relaxation are absolutely necessary and important elements of the method, and cannot be eliminated." (I have translated and slightly shortened his remarks.)

My view is somewhat different. I certainly believe Mr. Kisza's explanation, but I also tend to believe there is an additional element, which is as follows: if the secret of superior memorization is in the method, in the combination of relaxation, special breathing and music, then it is the teaching method which is miraculous. If, however, the secret of superior memorization is in the student, for example in the student's own mental preparations and expectations, then such a learning experience is a threat. The student begins to feel, "If I can learn 100 words easily, painlessly, in 2½ hours, and come out more refreshed than when I started, who am I? How much of my life have I wasted? What about my future? What am I really capable of? Apparently I'm not who I thought I was." A very unsettling experience indeed.

Both Mr. Kisza and I tend to think that he learned so well during the experimental session because his mind and body were prepared to take in the words as before, according to habit: same room, same teacher, same textbook, same general context. The habit overpowered Mr. Kisza's conscious wishes.

VI. Conclusion

The results are to be interpreted with considerable caution. The fact that Mr. Kisza earned good grades in his first classes of high school French and that his grades changed when the teacher changed indicates that he had always had the ability to learn foreign languages quickly. It was a latent ability stifled by bad teachers. In addition, the fact that Mr. Kisza achieved so much in so little time does not necessarily mean that a class of average students can do as well. A number of special factors must be taken into consideration:

1) There was a 1 to 1 relationship: one student to one teacher.
2) The motivation of the student and the teacher were very high. The student knew, to use his own words, "English will be my lifeline for the first few months," that is, until he learns Swahili. For the teacher it was a wonderful challenge.
3) Since Mr. Kisza needed English urgently, our prime goal was not to set up a research project. We designed the course for speed, not for verification. For example, Mr. Kisza practiced English conversation with another teacher 4½ hours a week for about 5 weeks, a completely uncontrolled factor.
4) The student knows Latin and a little Greek, and is interested in etymology, so he was able to associate new words with their Latin and Greek roots. There are of course many other possibilities for making associations while learning vocabulary, such as imagining scenes and pictures related to the words, but in an average class there may well be some students who are neither interested in etymology nor accustomed to using their imagination.
5) Grammar was done very lightly in the vocabulary sessions. For the first two-thirds of the course I relied on the student's knowledge of Latin, Greek and German, and left grammar for the final third of the course, at which point grammar instruction followed the more traditional lines of explanation and drill. For students who know no other foreign languages, grammar may well be considerably more important.
6) A follow-up test, six months or a year after the course, would be meaningless, since by that time Mr. Kisza will have had exten-

sive practice speaking English in Tanzania.

On the other hand, in 56 class-hours Mr. Kisza memorized over 2000 words and phrases, an achievement which is inconceivable by any other method known to me. Considering his previous unhappy experiences with learning foreign languages, Mr. Kisza's success seems to me especially significant.

A Note of Caution:

Fourteen months have now passed since Mr. Kisza and I worked together on English. Since then I have learned to teach foreign languages using an approach based on a newer version of Dr. Lozanov's method, without the relaxation and breathing techniques described in "Superlearning".

As I have had a chance to teach with the two variations, I feel somewhat qualified to compare them, and to say that the newer version is far superior to the one described in "Superlearning". Students following the techniques in "Superlearning" tend to concentrate very much on memorizing individual words, although learning a language involves more than memorizing vocabulary. With Dr. Lozanov's newer version, students concentrate of **speaking** in the foreign language, with no loss in speed of memorization.

The second and more important advantage of the newer method is that it is considerably safer. I must confess that I feel a strong need to warn teachers and researchers who may be tempted to repeat my experiment that the "Superlearning" method is related to yoga techniques, and yoga is not without its dangers. Although I stopped using relaxation and breathing techniques before experiencing any serious accidents, I feel that any attempts to teach with "Superlearning" techniques should be done with a good deal of caution, and with respect for the range of possibilities within the human subconscious, and whenever possible in close cooperation with a very experienced yogi or with a doctor.

Vienna, September, 1981

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Leçons particulières intensives basées sur les Fantastiques Facultés du Cerveau (Superlearning)

L'auteur décrit en détail une expérience récente où il a donné des leçons particulières intensives basées sur le Superlearning à un étudiant autrichien qui voulait apprendre l'anglais comme langue seconde. Des tests de vocabulaire ont été donnés à la fin de chaque séance de deux heures et demie. L'étudiant a appris environ 2.000 mots et expressions en 22 séances et à la fin du cours il pouvait bien communiquer en anglais.

Intensive Nachhilfe auf Superlearning basiert

Der Verfasser beschreibt ausführlich seine jüngste Erfahrung in intensiver auf dem Buch Superlearning basierter Nachhilfe für einen österreichischen Studenten, der Englisch als zweite Sprache lernte. Vokabularprüfungen wurden am Ende von jeder zweiundeinhalbstündigen Nachhilfestunde gegeben. Der Student lernte so gegen 2000 Wörter und Ausdrücke in 22 Sitzungen und konnte sich tatsächlich wirksam auf englisch ausdrücken.

ENSEÑANZA BASADA EN SUPERAPRENDIZAJE.

El autor describe en detalle su reciente experiencia en enseñanza intensiva basado en el libro Superaprendizaje con un estudiante Austriaco de Inglés como segunda lengua. Exámenes de vocabulario fueron dados al final de cada 2½ horas de enseñanza, el estudiante aprendió a cerca de 2000 palabras y fraces en 22 secciones y fue capaz de comunicarze efectivamente en Inglés.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(4)

Language and Music:
Suggestopedia and the Suzuki Method

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Abstract

Developed in Sofia, Bulgaria in the 1960's by Dr. Georgi Lozanov and his colleagues at the Institute of Suggestology, Suggestopedia has been applied in Europe and North America to the teaching of a number of academic subjects, especially foreign languages. Music is an integral part of the Lozanov Method--especially of the relaxation session for unconscious assimilation of the lesson material.

The Talent Education Method of Shinichi Suzuki, which had its origins in Japan some forty years ago, is principally used for the teaching of music, although it has been used to teach academic subjects. Suzuki based his music method on the way children learn their mother tongue.

Both the Suzuki Method and Suggestopedia emphasize the teacher's authority, the role of the environment and the untapped potential of the learner. Both methods favor the use of baroque music and emphasize the training of the ear and the development of memory through listening and repetition. Both systems promote indirect attention to, and unconscious absorption of lesson materials while the pupils are in a relaxed state. In the conception and development of their respective methods, both Lozanov and Suzuki have been influenced by Oriental philosophy--raja yoga in the case of Lozanov and Japanese zen in the case of Suzuki.

Developed in Sofia, Bulgaria in the 1960's by Dr. Georgi Lozanov and his colleagues at the Institute of Suggestology, Suggestopedia has been applied, in Eastern Europe, Western Europe and North America, to the teaching of a number of academic subjects and principally to the teaching of foreign languages. Music is an integral part of the Lozanov Method--especially of the relaxation session for unconscious assimilation of the lesson material.

The Talent Education (or Mother Tongue) Method of Shinichi Suzuki had its origins in Japan some forty years ago. (The Matsumoto School was the first to open in 1945 but Suzuki conceived his method somewhat earlier). Although the Suzuki Method is principally used for the teaching of music--especially in North America where it has been in existence since the 1960's--in Japan the Suzuki approach has been applied to the teaching of such academic subjects as mathematics, Japanese and English. And Suzuki based his music method on the way children learn their mother tongue.

By definition, there are differences between Suggestopedia and the Suzuki Method relating especially to the differences between the pricipal subjects taught by these methods: foreign languages versus music. However, there are also some very important similarities between the Bulgarian and Japanese systems. It is the aim of this paper to discuss these similarities.

Dr. Lozanov believes that the authority of the teacher and the prestige of the educational institution are all-important factors contributing to better learning on the part of the students. In Lozanov's opinion, students remember best what comes from an authoritative source--a great writer, a great artist, a great teacher. In keeping with Japanese tradition, Suzuki attaches great importance to the element of prestige. The teachers engaged should be worthy of respect; a parent (i.e., an authority figure within the family) is involved from the beginning in the child's music training and the parent becomes, in effect, a home teacher--at least in the early stages. The recordings the children listen to at home should be superior performances made by distinguished artists.

According to the Lozanov theory, the greater the authority of the teacher, the greater the process of "infantilization" in the students. Following the example of the model psychotherapist, the teacher, through his competence and sympathetic attitude, must suggest to the students that they should have confidence in his (or her ability), that they have the child's curiosity for new information and that they will memorize the appropriate materials easily. Infantilization (a state of confidence and receptivity) is more easily achieved in a group because group activities provide for an atmosphere of greater spontaneity. The playing of roles and games and the singing of songs create a situation in which the students are liberated from their normal social patterns and inhibitions and are encouraged to express their individual abilities in a spontaneous manner. In the suggestopedic language class, fixed exercises are eliminated, although imitation and repetition are emphasized. Language is learned globally; whole dialogues are memorized and then elaborated upon during the period of conversational review. Emphasis is placed on class performance and on the final "play" in which all the students (twelve in number) play a role.

Suzuki believes that music education cannot begin too early. "Educate as early as possible," is his philosophy (Suzuki, 1973, p. 15). By his competence, relaxed manner and positive suggestions, the teacher should motivate the child to learn. "Above all, " says Suzuki, "the teacher should have a passion for true education, a deep understanding of children, and the love of a mother" (Starr, 1976, p. 13). The child should feel that the teacher enjoys teaching him. Although the technical aspect is constantly emphasized in the Suzuki Method, dry exercises are avoided. As in the suggestopedic language class, the teacher must be creative enough to invent his (or her) own exercises. In addition to private lessons and home practice, group lessons are an integral part of the Suzuki approach and, during these group lessons, activities are varied to include songs and games. The pupils are entertained while they develop their skills. Imitation and repetition are emphasized in the Suzuki Method; many whole pieces are committed to memory before the reading of music is taught. Emphasis is placed on performance and frequent "concerts" are the rule.

In accordance with Soviet psychology, Lozanov attaches great importance to the role of the physical and social environment, using the coined term "double-planeness." For Suzuki, the environment is crucial; children should be educated or brought up in an atmosphere of trust, joy, love and security. According to Suzuki's humanitarian philosophy (which is very similar to Loza nov's), all children have great potential; were this not the case, they would never learn to speak their mother tongue as well as they do.

While Suzuki does appear to recognize hereditary physiological differences, for him the school and home environment are *the* determining factor in a child's development. "If all parents were awakened to the inherent nature of their children and provided them with an ideal environment, all children would gain extraordinary ability" (Suzuki, 1973, p. 9). For Suzuki, talent is not necessarily inherited and cultural sensitivity is learned. "To be born with excellent or superior qualities only means to be born with an ability to adapt more speedily and sensitively to one's environment" (Suzuki, 1969, p. 24). According to Suzuki's philosophy, every child, even a handicapped one, can le arn if the stimulus is repeated often enough and if the learning environment is positive. "Many children (however) grow up in an environment that stunts and damages them, and it is assumed that they are born that way, and they themselves believe it too" (Suzuki, 1969, p. 7). The responsibility of providing a positive environment lies with parents and teachers.

According to Suzuki, if any child is brought up so that he hears off-key, distorted music every day, that child will become tone-deaf. If any child is brought up so that he hears good music every day from the time he is born (through records, for example), that child will become a person with a "rich musical sense" (Cook, 1970, p. 30). In Suzuki's opinion, while each child has his own growth rate, each child is born with a "wonderful living soul" capable of responding positively to a favorable musical environment (Starr, 1976, p. 16).

According to the Lozanov thesis, the principal theoretical elements of Suggestopedia are: authority (or prestige); infantilization (or confidence of subject); double planeness (importance of the environment); intonation (or tone of voice); rhythm; concert pseudo-passivity (a state of relaxed alertness) (Lozanov, 1978, pp. 187-200). In his various written and oral pronouncements, Suzuki emphasizes the prestige of the teacher, the potential of the child (his spontaneity and receptivity), the importance of the school and home environment. Since the prinicipal subject taught by his method is music, Suzuki interprets the term "intonation" somewhat differently from Lozanov. Whereas Lozanov uses the term "intonation" to mean, essentially, the tone of voice of the teacher (during the reading of the language dialogue over music, for example, the teacher's voice should be soothing and persuasive), Suzuki em phasizes the importance of instrumental tone production in music lessons. Both systems stress the importance of rhythm; in Suggestopedia, however, it is the correct rhythmic presentation of the language material which is essential in that this factor has a positive effect on memorization; Suzuki begins his music training with rhythmic games to establish a sense of rhythm in the child and both correct rhythm and beautiful tone production are considered essential in the child's musical performances.

It is clear from their writings that both Lozanov and Suzuki have been influ enced by Oriental systems of relaxation and concentration training--whether yoga (especially raja yoga) in the case of Lozanov or Japanese zen in the case of Suzuki. Their respective memory training systems have, at least in print, an Oriental vagueness to them, although those who have taken courses in the original Lozanov Method and/or in the Suzuki approach can attest to a precision of detail. It would appear also that the memory training aspect of both the Lozanov and Suzuki Methods has been more rigorously carried out in the appropriate country of origin (whether Bulgaria or Japan) than in the West. In the written accounts available in English translation provided by both Lozanov and Suzuki, there are but oblique references to breathing exercises, correct posture, concentration and relaxation training.

For Lozanov, a state of concert pseudo-passivity (or relaxed alertness), achieved while the students are listening to the language dialogue being read over a background of classical music, is extremely important for unconscious assimilation of the lesson material; concert pseudo-passivity may lead to a state of hypermnesia or super-memory. This state of relaxation is based on, or derived from Savasana yoga and was originally achieved at the Institute of Suggestology by correct posture, progressive relaxation of the vital areas of the body, deep, rhythmic breathing and coordination of breathing with thought or image. Baroque music, with its evocation of a calm, pleasant atmosphere, was found to be extremely important for mental relaxation.

Both Lozanov and Suzuki attach great importance to memory and memorization. According to Lozanov, "the main aim of teaching is not memorization, but the understanding and creative solution of problems. However, the main obstacle encountered in teaching is memorization, automation and the assimilation of the material presented" (Lozanov, 1978, p. 251). In his book, *Nurtured by Love* , Suzuki declares that "memory is essential" and that "memory skill can be acquired by anybody if it is properly inculcated." With proper training, one's ability to memorize can improve; the time it take s to memorize becomes shorter and shorter until one is able to memorize "immediately." And after one has learned something, one remembers it. According to Suzuki, "children of high scholastic standing at school are simply ones whose memory skill is unusually well developed" and inferior students are "only ones who have not acquired memory skill" (Suzuki, 1969, p. 104). Students in Suzuki schools in Japan are trained to memorize and recite well-known *haiku* which have been selected for their interest, poetic charm and observation of nature. (A *haiku* is a short Japanese poem of five, seven and five syllables in three lines). In one year, Japanese children usually acquire the ability to memorize 170-180 *haiku* and they are able to repeat any one of them upon demand.

As in the original suggestopedic language class, mental awareness is emphasized in Suzuki music lessons; for example, mental anticipation of motions to be made and mental reflection on motions already made are considered valuable tools for the violin student. While Lozanov believes in the use of positive suggestions for pleasant learning and each suggestopedic language dialogue encourages the student to visualize a pleasant (if nonetheless relevant) scene, Suzuki students are encouraged to imagine themselves playing well and giving fine performances. Although the Suzuki teacher should be sensitive to signs of fatigue in the young child and should give the pupil moments of relaxation, he (or she) should strive to develop the child's concentration span in the lesson. Suzuki believes that a youngster's attention span can be gradually built up from a few minutes to lengthier periods of time (say, forty-five minutes). Home practice periods should grow in length along with the child's ability to concentrate. According to Suzuki:

> At home two or three minutes of practice may be enough for a beginner. Perhaps this can be done four or five times a day. Gradually each practice period can be longer as the child begins to play the Twinkle Variations. If he can play all the variations of (Twinkle Twinkle Little Star), which may take four minutes, his ability to concentrate is also developed to that length of time. As other pieces are added, the period of concentration lengthens naturally (quoted in Starr, 1976, p. 19).

In the Suzuki Method, as in Suggestopedia, concentration training is accompanied by relaxation. Or rather, the ideal in both methods is to achieve in the student a state of relaxed alertness--the ideal learning state. According to William Starr, tension remains the chief obstacle to the development of a fine technique on the violin (Starr, 1976, p. 139). From the very beginning, violin teachers are continually trying to produce the right kind of relaxation in the child's shoulders, hands and arms. Muscles do need to be developed for strength but these same muscles should not exert more force than necessary, nor should muscles be used that are unnecessary. Suzuki teaches the children to move about in games while they are holding the violin both to relax them and to free muscles that might otherwise be tense. Experienced teachers get their violin pupils to relax by placing their hands on the children's shoulders, bending and massaging the fingers of both hands, checking for excessive finger pressure on the strings and by asking the children to "feel" the teacher's arms and hands as he (or she) plays, to feel their lack of tension. Suzuki believes in teaching the children the "proper kind of relaxation" (coming from zen and yoga) in which one is relaxed yet centered. Correct posture is emphasized in violin training and breathing exercises may be used to put strength in the center of gravity--a point in the lower abdomen several inches below the navel.

Both Lozanov and Suzuki believe not only that every child (or every individual) has great potential but that students learn best in an atmosphere of joy. In *Suggestology and Outlines of Suggestopedy* , Lozanov indicates that students must be relieved of stress and strain, of psychological blocks to learning. According to Lozanov, there should be a "joyful freedom" in the process of instruction (Lozanov, 1978, p. 258). Lozanov believes that the "whole" student--his emotions as well as his intellect— should be involved in the learning process. The student may not really be aware of his full potential until the suggestion is given to him that he can, indeed, learn more than he believes possible. Through practice and "positive reinforcement," the student is given confidence in his abilities to assimilate the material easily.

Suzuki believes that the relationship of parent to child (or teacher to child) in a learning situation should be warm, loving and relaxed (Ferro, 1973, pp. 39-40). The learning process should be one of enjoyment for teachers and parents, as well as students. The pupil should be motivated by praise, warm support, constructive criticism (if and when needed), a sense of sincere and joyful participation in the music by parents and fellow students. Even home practice should be filled with enthusiasm. Making music "fun" does not mean setting lower standards, however. In the Suzuki approach, while the children *do* have fun, this is not at the expense of excellence. It is generally recognized that Suzuki students learn to play well and become very sensitive musicians. In Suzuki experimental schools in Japan where all subjects have been taught, the lessons were performed in an enjoyable atmosphere, no homework was assigned and no child was ever made to feel inferior; lessons, however, were thoroughly learned by the pupils (Starr, 1976, p. 2). (Lozanov claims that suggestopedic instruction in Bulgarian schools has achieved equally remarkable results (Lozanov, 1978, pp. 321 ff.)).

If Lozanov has been greatly influenced by yoga, Suzuki is in the tradition of Japanese zen in that the Suzuki Method believes not only in fostering a musical sense and developing performing ability but also in forming character (Cook, 1970, p. 33). The extra-musical aims of Talent Education (like the extra-linguistic aims of Suggestopedia) are in keeping with the Oriental pursuit of wholeness, integration and spirituality. "Art is heart," according to Suzuki (quoted in Cook, 1970, p. 70). In its English translation, Suzuki's autobiography is entitled *Nurtured by Love* ; like Lozanov, Suzuki (although not a medical doctor) is reputed to have "healing powers." In the Suzuki Method, emphasis is placed on love, on making a better world, on international good-will, on the happiness of all children (Cook, 1970, p. 26). If Suzuki pupils do not all become professional musicians, they nonetheless receive a very fine musical education and will probably enjoy music for the rest of their lives.

As set up by Aleko Novakov at the Institute of Suggestlogy in the late 1960's and early 1970's, the original suggestopedic language class comprised three parts: 1) review of previously learned material in the form of conversation(s), games, sketches; 2) presentation of new material, with accompanying grammar and translation; 3) a *seance* or relaxation session which provided for memorization of the new material at an unconscious level. Originally, at least for the "concert" part of the *seance* , the alternate Savasana posture was used. (In this variant of the "corpse" pose, one does not lie down on the floor but reclines in a specially constructed chair, one with a pillow or head-rest). The students were trained to breathe deeply and rhythmically as a group to a count of eight that accorded with the teacher's reading of the language material and/or with the beat of the baroque slow movements in the background.

The dialogues were originally arranged on the page in groups of three, with five groups of three phrases or sentence fragments to a page. The translation of each word-group was provided in a column at the right of the page. Since, during the original *seance* or session, each word-group was read during a time span of eight seconds and three phrases were read in twenty-four seconds, each page of dialogue involved two minutes and each ten-page dialogue twenty minutes of reading. According to experts, twenty minutes is the ideal meditation period in yoga.

Originally based on two forms of yoga concentration (outer/inner), the *seance* was divided into two parts: active and passive, with active or outward concentration on the material preceding the rest and relaxation of passive meditation on the text. During the active session, the three words or phrases of each group were presented together, each with a different intonation or voice level: Where do you study English?--declarative; We study English at the Institute of Suggestology--whisper; Is the Institute a school for foreign languages?--loud command. The three intonations (declarative, whisper, loud command) correspond to three forms of yoga suggestion. During the active session, the students looked at the dialogue on the printed page and repeated to themselves, using the technique of "inner speech" (Sokolov, 1972), the difficult foreign words and phrases.

The original concert session (or passive part of the *seance*) was divided into three parts: 1) a two-minute introduction which served as a "countdown" (the opening Sarabande from Bach's *Goldberg Variations* played on the harpsichord with a metronome speed of 70 to 80, the beat of the normal human pulse); 2) a series of slow movements from baroque *concerti grossi* , lasting some twenty minutes, over which the teacher acted out the lesson dialogue with an emotional or artistic intonation and during which the students, with eyes closed, meditated on the text; 3) a fast, cheerful flute excerpt from baroque music, lasting some two minutes, which brought the students out of their deeply relaxed state. This three-part "concert" corresponds to a three-part session in music thera py: calming-down; relaxation; awakening (Jost, 1979, p. 113).

The slow movements used in the original concert, excerpted from the *concerti grossi* of Corelli, Handel, Vivaldi, Bach and Telemann, have, by definition, a rhythm of sixty beats to the minute (MM 60), the ideal beat for meditation in Indian music. A sustained melody in the violin or string section and a steady bass accompaniment are other important features of baroque slow movements composed during the period 1700-1750. In the original *seance* , the teacher maintained the correct rhythm of the language dialogues while giving each foreign-language phrase an artistic reading, in a soft, soothing voice. The lyrical and rhythmic music, the artistic and rhythmic rendering of the text by the teacher, the rhythmic deep breathing and meditative state of the students (i.e., "concert pseudo-passivity") contributed to a marked decrease in fatigue and tension and a marked increase in the memorization (or the absorption) of the language materials.

Like Suggestopedia, the Suzuki approach to education begins with listening and the development of the ear and the memory. The first music pieces are learned by rote, giving the pupil freedom to put all of his attention on tone, shading and technique. Reading comes later, after good playing habits have been established. The Suzuki Method is based on the intuitive discovery by Shinichi Suzuki that all children throughout the world are educated to speak their mother tongue with the utmost fluency. "This education in their native languages enables them to develop their linguistic abilities successfully to an extremely high level" (Suzuki, 1973, pp. 10-11). According to Suzuki, the world's best educational method (for children) is found in the method of teaching the mother tongue--a method in which speaking precedes reading, pronunciation is developed through listening and individual words and phrases are repeated over and over until they are learned and absorbed. A good deal of this learning takes place through indirect attention, i.e., the child learns his native language while doing something else, while engaged in activities, games and the like. Suzuki considers two principles to be the most important elements in his method: 1) the child must be helped to develop an ear for music through repeated stimulation; 2) from the very beginning, every step must be thoroughly mastered and each piece must be perfectly memorized (Suzuki, 1973, p. 12).

According to Suzuki, an ear for music is not innate; rather, an ear for music (like an ear for language) is something which can be acquired by repetitive listening; "the sooner this is begun the more effective it will be" (Suzuki, 1973, p. 12). Ideally, according to Suzuki, music training should begin at home from the moment of the child's birth. A short masterpiece (or movement from a masterpiece) by one of the great composers is selected and that one selection (or one movement) is played every day for the baby. Baroque compositions are often used because of their clear rhythmic structures, uncomplicated harmonies and/or sustained melodies. After about five months, the baby will have "learned" (i.e., absorbed) the selection; at that point, another selection (or movement) is added. The baby now hears two selections every day. Following this pattern (or musical progression), the baby will grow into a child who is sensitive to music. Suzuki stresses that, in addition to soothing the baby, listening to good music motivates the child to want to play that music later on, develops his musical memory and improves his future ability to play by ear.

Once the child's ear for music has been developed through repetitive listening, he is ready to begin to learn to play a given instrument (say, violin, piano or cello). Suzuki pupils usually begin lessons at about age three or four. Once the child has begun his music lessons (both private and group), quite obviously home practice plays an important role and regular practice (even if only for short daily periods) is an important part of the Suzuki Method. Easy materials and short lessons (sometimes of only five minutes' duration) are the rule for beginners; as with the acquisition of the native lanuage, music material(s) must be thoroughly mastered before the next step is embarked upon. The development of the ear continues to be emphasized, however. The piece which is to be learned should always be played beforehand to the pupils every day by means of records or tape recordings; the piece is memorized in advance and then the child is taught to play it. The pupils should also continue to listen to the appropriate records or tapes while they are learning the piece. In addition to the continuing (and gradual) development of a musical sense, the Suzuki Method fosters unconscious assimilation of the material and a direct transfer from ear to performance. It has been noted by writers on the Suzuki Method that small children, who have heard the recordings many times (and on a daily basis), seem to play effortlessly insofar as memory is concerned.

In order to carry out the "listening" part of the Suzuki Method successfully, it is essential to have recoreds or tape recordings of superior quality. The piece to be learned should be listened to over and over again by the pupil; however, the child need not be forced to sit down and listen to the recording; he can listen while doing something else. The music can be played in the room while the child is studying another subject or while he is eating a meal. Through indirect attention, the child easily absorbs the musical sounds at an unconscious level. Some mothers prefer to play recordings as the child lies in bed before going to sleep. Tape recordings can be made with several repetitions on the tape or use can be made of "endless" cassette tapes that repeat continuously. Corresponding to hypnopedia (or sleep learning), the child absorbs the musical structures while he is falling asleep or while he is in a state of paradoxical (or light) sleep.

Adults should understand, Suzuki warns, that the child will not tire of the same recording as an adult might (Starr, 1976, p. 8). The small child loves familiar sounds. The child should not only listen to recordings of the pieces that he is currently studying but also to recordings of the pieces that he will study in the future. In the Suzuki Method, pieces are not just learned and then abruptly dropped. Some parents make tapes of a whole book of selections which include future works and pieces for review. An advanced student may enjoy listening to (or "reviewing") the earlier pieces in order to help him keep them in his memory for group lessons and concerts.

In the development of the ear and the memory through listening and repetition (or rote learning), the Suzuki Method resembles Suggestopedia. In both systems, there is a transfer from ear to performance. In the Suzuki Method, the children listen to the piece before they play it; in Suggestopedia, the students listen to the dialogue(s) being read before they elaborate upon the material the following day in conversations, games and sketches. (According to Aleko Novakov's theory of "interiorization of language," visualizing and listening to a text further the students' ability to communicate, as well as memorize). Both methods favor indirect attention to, and unconscious absorption of lesson materials while the pupils are in a state of relaxation. The passive part of the suggestopedic *seance* presents the lesson dialogue to the students over a background of classical music. During this passive session, the students listen directly to the music and indirectly to the lesson material being read in a soft, soothing voice by the teacher. Suzuki pupils listen to recordings either while falling asleep or while engaged in another activity, i.e., while paying indirect attention to the music.

Both the Suzuki Method and Suggestopedia favor the use of baroque music, with its clear, rhythmic patterns. Composers used in the original suggestopedic *seance* were Bach, Corelli, Handel, Telemann and Vivaldi and chamber works for violin were preferred. The Suzuki Method was originally developed for the violin as Suzuki himself is a violinist. The Suzuki violin manuals feature a good deal of baroque music, especially works by Vivaldi, Bach and Handel. Early violin materials are in the basic keys of E Major, A Major, D Major and G Major.

For the beginner, listening is the preferred memory aid in the Suzuki Method. However, for the older student, who may be unable to memorize as effortlessly as a child, a number of zen or yoga techniques are used--techniques which are similar to those used in the suggestopedic *seance* . Some Suzuki students listen to recordings with the music in front of them (corresponding to the original "active" session in Suggestopedia in which the students both looked at and listened to the language dialogue(s)). According to William Starr, a proven aid to the more advanced student is the purely visual one. Music can be studied visually during the time in bed before the student goes to sleep as the mind's retention is very high at this time. Starr believes that, if the student has looked at the music long enough, studying the notes, he should be able to "see" it as he plays (Starr, 1976, p. 140).

Corresponding to the use of "inner speech" in the active part of the suggestopedic *seance* , internal singing is recommended by such writers on the Suzuki Method as William Starr:

> The performer feels that he is giving sufficient attention to his music if he listens to himself play, but a far different effect is felt if the performer sings along to himself internally as he plays. This is not true singing, this internal singing, yet it is an internal sound that helps exclude verbalized thoughts much as does the mantra (in yoga). (Starr, 1976, p. 140).

Not only does internal singing exclude distracting thoughts but, by using this technique, one is more likely to give the music "breath and spirit," without which, says Suzuki, music does not live.

In the West--particularly in North America--yoga and zen tend to be associated in the minds of many educators with the mystical and the impractical. In the East, however, yoga, zen and similar systems of meditation have a very definite practical and pedagogical value as can be seen by an examination of Suggestopedia and the Suzuki Method.

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Musique et Parole: Une Comparaison de la Suggestopédie et de la Méthode Suzuki

Développée en Bulgarie dans les années 60 par le Dr Georgi Lozanov et ses collègues à l'Institut de Suggestologie, la Suggestopédie a été appliquée en Europe et en Amérique du Nord à l'enseignement d'un certain nombre de disciplines mais surtout à l'enseignement des langues étrangères. La musique constitue un élément essentiel de la Méthode Lozanov en général et de la séance de relaxation en particulier, laquelle séance permet aux étudiants d'assimiler le nouveau matériel à un niveau inconscient.

La méthode que Shinichi Suzuki a fondée au Japon il y a environ quarante ans pour développer les capacités naturelles de l'enfant s'applique avant tout à l'enseignement de la musique bien qu'elle ait été employée pour enseigner d'autres matières. Suzuki a basé sa méthode pour enseigner la musique sur l'apprentissage naturel qui se fait de la langue maternelle en enfance.

Dans la Méthode Suzuki, comme dans la Méthode Lozanov, on insiste sur l'autorité du professeur, le rôle du milieu et les capacités naturelles de l'élève. La musique baroque est favorisée dans ces deux systèmes, de même que l'éducation de l'oreille et le développement de la mémoire par l'audition et la répétition. Dans ces deux méthodes on favorise l'attention indirecte et l'assimilation inconsciente; les élèves apprennent la leçon dans un état de relaxation. En ce qui concerne la conception et le développement de leurs méthodes respectives, et Lozanov et Suzuki ont été influencés par la philosophie orientale: Lozanov est yogin et la Suggestopédie a subi l'influence du raja-yoga tandis que Suzuki est dans la tradition du zen japonais.

Sprache und Musik: Suggestopädie und die Suzuki Methode

Suggestopädie, die in Sofia, Bulgarien in den 60er Jahren von Dr. Georgi Lozanov und seinen Kollegen an dem Institut von Suggestologie entwickelt wurde, wurde in Europa und Nordamerika beim Unterrichten verschiedener akademischer Fächer, besonders Fremdsprachen, angewendet. Musik ist ein wichtiger Teil der Lozanov Methode, besonders während der Entspannungsphase, zur unbewußten Aufnahme des Lehrstoffes.

Die Begabten Ausbildungsmethode (Talent Education Method) von Shinichi Suzuki, die in Japan vor ungefähr vierzig Jahren entstand, wird hauptsächlich im Musikunterricht verwendet, obgleich sie auch in akademischen Fächern Gebrauch gefunden hat. Suzuki gründete seine Musikmethode auf dieselbe Weise, durch welche Kinder ihre Muttersprache lernen.

Die beiden Methoden, Suzuki und Suggestopädie, betonen die Autorität des Lehrers, die Rolle der Umgebung, und die unausgenützte Fähigkeit des Lerners. Beide Methoden neigen

zur Nutzung barocker Musik und betonen durch Zuhören und Wiederholung die Schulung des Ohres und die Entwicklung des Gedächtnisses. Die beiden Systeme fördern eine indirekte Aufmerksamkeit auf und unbewußte Aufnahme von dem Lernstoff, während die Schüler in entspanntem Zustand sind. In der Gestaltung und Entwicklung von den einzelnen Methoden wurden die beiden, Lozanov und Suzuki, von orientalischer Philosophie beeinflußt -- raja yoga im Falle von Lozanov und japanische Zen im Falle von Suzuki.

LENGUAGE Y MÚSICA: SUGGESTOPEDIA Y EL METODO SUZUKI.

Desarrollado en Sofia, Bulgaria en los 1960 por el Dr. Georgi Lozanov y sus colegas en el instituto de suggestología. Suggestopedia a sido aplicada en Europa y Norte América para enseñar un número de matérias académicas, especialmente lenguas extranjeras. Música es una parte integral del Metodo Lozanov especialmente la sección de relajación para la asimilación inconciente del material que se estudia.

El Talent Education Method de Shinichi, el cual tuvo sus origenes en Japón hace aproximadamente cuarenta años, es principalmente usado para la enseñanza de música, no obstante éste es usado para enseñar materias academicas. Suzuki basó su método de música en la forma que los niños aprenden su lengua materna.

Ambos el Método Suzuki y suggestopedia hacen enfasis en la autoridad del profesor, el ambiente y el potencial del que esta aprendiendo. Ambos métodos favorecen el uso de música Barroca y hacen enfasis en el entrenamiento del oído y el desarrollo de la memoría atravez de escuchar y repetir. Los dos sistemas promueven atención indirecta e inconciente absorción del material de la lession cuando las pupilas estan en estado de relajación. En la concepción y el desarrollo de sus respectivos métodos, ambos Lozanov y Suzuki han sido influenciados por filosofía oriental -- Raja Yoga en el caso de Lozanov y Japanese zen en el caso de Suzuki.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(4)

Excerpts From a Report on a Workshop in Malmo

Christer Landahl

Abstract

During a training workshop in Malmo, Sweden, in 1978 Dr. George Lozanov, in answering questions, explained his thoughts on several topics. He addressed the questions of teacher aptitude and training, student motivation, music, and relaxation.

In May of 1978 Dr. George Lozanov conducted a workshop in Sweden, and through the questions and answers information about suggestopedia emerges, some of which has not yet been clarified elsewhere. The workshop was a training session, and Dr. Lozanov explained and demonstrated suggestopedia in detail, stressing the three suggestopedic principles: joy and absence of tension, unity of the conscious and subconscious, and the suggestive link. Translated excerpts from the questions and answers follow.

Q: Are gifted teachers necessary?

A: I am not afraid of the teachers who are not gifted enough. It depends on our wish to organize a system for mass education, not a closed system. The method can be applied in a closed system at a higher level with specially selected and trained teachers. In society, however, we have different personalities. If a personality is fond of his or her profession and wants to work, one can be trained in some way. One who is motivated can be trained, and a teacher who cannot achieve the best results can achieve acceptable results, that is, two to three times better. We do not select only gifted teachers even if it would be better. Of course, it would be better with musicians, specialists in mathematics, artistic teachers and at the same time harmonious personalities who have worked with themselves for many years. The only problem is that the teacher should be willing to accept the new teaching process and be good on the average. Of course, the gifted are welcome in suggestopedia. Already now we have in mass education teachers who are very good, others who are not good enough but who are willing to get better. They are working acceptably for parents and children. The best teachers are rare. We do not have many teachers who are the best in normal practice. The same is true for suggestopedia.

Q: Do you make them work with the way to talk?

A: Yes, we train them how to talk, how to conduct the concert session. New teachers will listen to the concert session and try it themselves. We correct them. After that they will begin to work. We train them not only during the lessons, but we give them further training in how to behave with voice and intonation, how to talk to the students, how to correct their mistakes, and what intonation to have when correcting the students.

Q: Have you tried to train very young children?

A: Yes we now have children two and three years who are reading-three years, even two years, who are reading fluently. They have learned to read in a month. Very interesting. I got very interested in the results achieved, because they read fast.

Q: How am I going to learn the spelling of the words? Only through reading? (Question from a student in the Italian Course.)

A: We start with normal communication and reading. Writing comes later at the end of the first month and beginning of the second because we want to have more impressions of reading. During reading we are accepting most of the peculiarities in the language. When you start writing at the end of the course, it will be easier than it is right now. You loose the motivation to learn more if you have too many difficulties at the same time-speaking, reading, writing and so much material that has to be accepted.

Q: Is there anything in the method saying that you should not write if you like? Or would you advise the students not to write anything?

A: No. If they like to write, that's fine, they can write. You understand? Nothing against it. But as the language comes spontaneously in the end...we want the students to want, to wish.

Q: What is the difference between this method and any ordinary intensive course in Italian?

A: This method is built on a medical, psychotherapeutical basis. The basis for all other courses is the psychological moment but here psychotherapeutic. That is why we have music of this kind, especially investigated. All the moments are especially elaborated. The teacher is trained to be able to stimulate you in a soft way. In all other intensive courses, the direct method and some other methods also, the students learn separate models, repeating them many times. It is most important that the students are motivated. They come to the courses not because they have to learn a language, which is the normal motivation, but with a motivation that comes from the process of instruction itself, because the students like to learn through a psychologically and psychotherapeutically organized teaching process. Some of you thought that you had received so much material that you would probably forget it in the near future since you do not repeat it. Make a try in the next two to three days, and you will find that your knowledge increases even at an active level. Within a month the level of knowledge will be the same; after that it will decrease during some months. If you learn more, of course, it will rise.

The music addresses problem of relaxation. When we started our investigations more than twenty years ago with clinical cases and, after that, education, we started with hypnosis and then relaxation. We thought that, even if we did not use hypnosis, we would reach results in a relaxed state. When we started with relaxation, we included in the beginning some yoga techniques to obtain a state of concentrated relaxation. But there are many people who are against such techniques, not only in Bulgaria but also in other countries. Such techniques are not understandable to everybody. It is not easy to apply in ordinary schools. There are parents who are against it. There are people who are philosophically against it. Therefore, we thought that it would be possible in a psychotherapeutical system to transform some of the moments to be close to the psychotherapeutical development and at the same time close to our contemporary culture. If you remember Schulz' autogenic training, it has been taken from yoga. He is transforming yoga savasana to fit his own medical points of view. Other psychotherapists have done the same thing. We decided that we probably could achieve such a concentrated relaxed state without yoga exercises, with only this kind of relaxation. And we started by asking the students to relax without giving them special exercises. For example, we now come into the classroom and say to the students: "Please relax and listen to the voice of the teacher."

But also in relaxation exercises we met some contradictions. There are some people who are against such relaxation, who did not think it would be possible to learn in a relaxed state. They said: "When I relax I like to sleep. I cannot learn." Moreover, some difficulties arose from these states because a system that could be used generally for all people in our contemporary culture was desired. We wanted to conduct the relaxation in a hidden way. Therefore, we came to the conclusion early that we wanted to give only a psychological relaxation without thinking of relaxation of the muscles. The relaxation of the muscles is achieved by many students but not every time and not by all students. Our investigations showed that some students achieved hypermnesia without a state of muscular relaxation. They were in an inner psychologically relaxed state without being in an outer state, that is, without a psychotherapeutical or yoga system.

We also like to train the students without outer activities-for example, muscular tension, to attain psychological relaxation and at the same time to concentrate to learn. When we, for example, are taking an exam and are thinking concentratedly, one can see that our sympathetic nervous system is stressed at a high level. Our muscles are also contracted, and we are making many extra movements and contractions without needing them. Therefore, when we are talking about concentrated relaxation, this means that we teach the students how to concentrate without extra activation. It is the same as when you learn to play piano. The first days you play tensely. We want to teach the students to be globally relaxed and not activate unnecessary functions that are included in the global process of activation, but without unnecessary hyperactivation. In such a state of relaxation and concentration, that is calm concentration, the students can learn more easily without negative influences. We achieve a state of concentrated relaxation.

However, it was difficult to teach them how to relax. They did not understand. Therefore we came to music. As we wanted to achieve such a state of relaxation, we have selected some very slow parts from classical and preclassical music, not complete works but smaller parts to create a state of deep relaxation. And it was easier to achieve such relaxation with small parts from the whole piece. But some of our students became so relaxed that they fell asleep. We do not need such a sleep state. We need relaxation but not sleep. We decided that, if we use the music to create a relaxed state, it probably is better to make the system more natural and at the same time to teach and educate them to appreciate classical music, to receive the positive influences from the music, to use the music not only to relax but also to learn, to develop the personality's interest in music, art and at the same time to learn something, foreign languages or something else.

We made comparisons with music selected earlier, ten years ago, and the music used already maybe six to nine years. The comparisons showed that it was best to use the music we now use as it helps us naturally without instructions, without any philosopnical disturbances because preclassical and classical music is accepted all over the world, especially in Europe. It is not completely new music that has to wait to be accepted. It also provides many possibilities for achieving a relaxed state. At the same time it does not create sleep problems like the music we used earlier. Here, the music has its parts - allegro, moderato, andante and so on. Because of the movements of the music it does not create a sleep state. There are exceptions. The students are relaxed. At the same time they are concentrating. In the music there are many philosophical ideas. The attention of the students can be directed to those ideas. They can decrease their attention to the material given to them by the teacher. To be able to create possibilities for spontaneously concentrated, relaxed state through such music makes us fully satisfied. Investigations in our laboratory show that a very small increase of the alpha waves is established. Maybe 75% of the students increase their alpha waves. The psychological investigations we made about the moral influence of the music show that students are not only calmer but also more positive towards their neighbours and all problems of life. Aggressive tendencies diminish.

The most important, the biggest conflict situation, here is that you give the students material which is many times greater than the limitations of the socially suggested norms. To give the students 500, 800 words and more, it affects all imagination. In this situation we must solve all the problems you mentioned, the anxiety about not understanding, not making mistakes. But all these moments must be solved so as not to disturb the students, but rather to motivate them through so many, many psychological details, to stimulate the students to be calm, to participate, not to be anxious, not to be able to learn.

Q: What about unmotivated children?

A: We have unmotivated children in mass education. They are fewer in the control classes. Some of our psychologists are working to help these children. Of course, everybody cannot be helped. We cannot immediately solve all problems once and for all, only some of the problems on some level. Only in certain situations under certain conditions are we able to solve problems, not in all situations everywhere.

Extraits d'un rapport sur un atelier suggestopédique à Malmo

Pendant un atelier de formation suggestopédique à Malmo (en Suède) en 1978, le Dr Lozanov a répondu aux questions des participants et a présenté ses idées sur certains éléments de la Suggestopédie, en particulier l'aptitude et la formation du professeur, la motivation des étudiants, la musique et la relaxation.

Auszüge aus einem Bericht über eine Arbeitsgruppe in Malmo

Während einer Ausbildungsarbeitsgruppe in Malmo, Schweden, im Jahre 1978 legte Dr. Lozanov, als er Fragen beantwortete, seine Gedanken über einige Themen dar. Er bezog sich auf die Fragen von Lehrerbegabung und Ausbildung, Motivierung des Lernenden, Musik und Entspannung.

EXTRACTO DEL REPORTE DE UN ENCUENTRO HECHO EN MALMO.

Durante el encuentro en Malmo, Sweden, en 1978 Dr. George Lozanov, respondiendo preguntas, explicó su pensamiento en varios tópicos. El discutió las preguntas de aptitudes de los profesores y entrenamiento, motivación de los estudiantes, música, y relajación.

J. of the Society for Accelerative Learning and Teaching, 1981, 6(4)

Suggestopedia: Considerations and Investigations*

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Abstract

Our intentions in this essay are two-fold: to discuss the psychological basis for suggestopedia, including a brief description of other teaching methods once used in the USSR which can be seen as predecessors to suggestopedia (since they are based on certain of the same psychological premises), and to examine the elements of relaxation and music as used in suggestopedia in more detail. The latter is accomplished by reporting our own experimental methods and data from these investigations. Finally, we discuss the results and the perspectives for the suggestopedic method and for further research into these elements of it, which could lead to a deeper understanding of the psychological basis for suggestopedia.

1. *Different forms of perception**

It is a well-known fact of psychology (and teaching) that not only can the choice and organization of potentially meaningful learning material influence learning (see Ausubel 1980:75), but also that the *processing* and storage of verbal information is determined and influenced by a great many further factors which are not, as a rule, even noticed by the learner. The question as to how the characteristics of a verbal message are conveyed to the senses cannot merely be answered by means of the analysis of the receptor that receives the acoustic information. All characteristics of the information source which are accessible to the human organism are perceived by specific receptors, but are processed differently for each practical purpose: "The process of perception is directed by several regulatory and feedback systems, by means of which certain stimuli are especially emphasized while others are more-or-less repressed." (Murch & Woodworth, 1978:24). The fact that the dominant verbal information which is passed on by means of the acoustic channel has been stored in memory does not mean that the other channels, whose functions are repressed by selective attention, are not just as meaningful for storage in memory and later for recalling the information.

Suggestopedia tries to integrate those factors into its teaching and learning system which are advantageous for multi-channel perception and multiple storage of the objects of perception. What is special about suggestopedia is that it tries to broaden stimulus configurations, and it also attempts to direct the context of information processing by means of specific changes in the condition of the perceiving organism. For example, it is the goal of the method that in certain phases of instruction the language material to be learned is perceived as a peripheral or subconscious stimulus. Such methods for the unconscious support of learning material that has first been presented consciously were tried before the introduction of suggestopedia in the USSR. The most well-known Soviet methods that tried, in one way or another, to activate perception potential were sleep learning and learning in a relaxed state (Hypnopedia and Relaxopedia, respectively), and the presentation of graphic stimuli (below the perceptive threshold) with the tachistoscope. The statements as to whether unconscious learning is possible are very controversial. Koeppler (1972) gives an overview of the most important questions and experiments.

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*Our special thanks to R. Grotjahn, and I. C. Schwerdtfeger for their help and comments on an earlier draft of this essay.

The pre-perceptive support of the foreign language learning processes, as described by Chacapuridze (1973), lies in the third class of Hilgard's (1962) classification system: the presentation of the material first perceived auditively and graphically is followed by short "repetitive phrases" with the help of a tachistoscope in such a way that whole sentences in the foreign language plus their translated equivalents are projected onto a screen without the learner's being able to identify the sentence (the projection time is ca. 1/10 sec.).

According to Chacapuridze's own statements, he was able to make 1500 LU's (lexical units) and the basic grammar of French or English available to his learners for active use after 80 hours of instruction (one new lesson per day, length of course = 40 days). The average learning rate is thus 18 LU's per class hour. In audiolingual and audiovisual foreign language courses this rate lies at 5-6 LU's; in Lozanov's suggestopedic method at 15 LU's (See Lozanov & Novakov, 1973).

In several series of investigations, Chacapuridze was able to show that the enlargement of the memory's storage capacity with this method can be traced back to subceptive effects. In the experimental group (average and weak learners), 95% of the words were remembered; in the first control group (gifted learners) 46.8%, and in the second control group (normal learners) 28.5%. The length of time that something that had been learned was remembered was also different (longer) than with other experiences with foreign language intensive courses: In one (translation) test, (English as L 2), 9 subjects reproduced 90% of the LU's and 96% of the sentences after one month, 81% of the LU's and 86% of the sentences after one year (Chacapuridze, 1973a). The availability for use in situations which were *different* from the learning situation was apparently not tested. A more precise description of Chacapuridze's course structure can be found in Baur (1977; 1979a); Bauer et al, (1981a).

One hypothesis for explaining the effects of subconscious perception could be derived from the different functions of the two hemispheres of the brain: the left hemisphere is a "specialist" for the processing of analytical information, especially verbal-analytical processes, while the right hemisphere works more integratively. Patients with split-brains, for example, can perceive and understand words via the right hemisphere, but they can not reverbalize them. The right hemisphere is also superior to the left in several areas, for example in the processing of complex graphic, spatial, or kinesthetic information as well as in the perception and processing of musical or emotional information. In the healthy person, an exchange of the information in the two brain hemispheres occurs easily and automatically. The most important connection necessary for this collaboration between the hemispheres of the brain is the corpus callosum. The differentiated activation of the two hemispheres depending on different tasks has, however, also been experimentally observed in healthy people. See Ornstein (1976, 70 ff.); Lurija (1969; 1975); Ornstein (1972); Sinz (1978, 1979). In Ullmann (1974, 160 ff) there is a summary of investigations of ear dominance which support the analytic linguistic dominance of the right ear and thus of the left hemisphere. Ullmann refers to Kimura (1964) for the dominance of the right hemisphere for melody recognition. Further literature is quoted by Racle (1978) with special reference to suggestopedia.

The improvement of foreign language learning by subconscious and peripheral perception could be explained as an additional activation of the potential of the right hemisphere, which is otherwise not involved in the logical-verbal processing of language information. In the case of subconscious perception, however, specific stimuli are proces sed which, on the basis of the connection between the hemispheres, relay the verbal information to other non-verbal portions of memory or unconsciously amplify (by means of "repetition") the verbal memory itself with information that has not come into consciousness.

In Chacapuridze's sub-perceptive amplifications, such processes could be just as effective as the specific enhancement of peripheral stimuli as accompanying verbal information or as the "turning-off" of the attention of the left hemisphere. Thus language itself becomes a peripheral stimulus that is not processed logically or analytically when in combination with music or in a condition of psychological and physical relaxation.

In so-called relaxopedia, the foreign language material is presented in certain phases of the instruction when the learner is in a state of psychological and physical relaxation brought about by autogenic training. The relaxation approach, supported by autogenic training as developed by Schulz (1972) in the 1920's, is based on psycho-physiological research done mainly in the realm of psychotherapy, the success of which is also based mainly on suggestion and relaxation. The effects of these two components also play a major role in suggestopedia. Therefore, we will first be concerned with this psychological basis for suggestopedia before we report our own investigations, which are intended as a demonstration of a method which makes it possible to show evidence for the effects of the level of relaxation of the learner or of the music on the retention of foreign language material in suggestopedic foreign language instruction.

2. *Suggestion and Suggestibility*

The term "suggestopedia" comes from the two words "suggestion" and "pedagogy", and it refers to a type of teaching that uses suggestion to improve learning and teaching success. The concept of suggestion often activates negative associations and reactions - because of its association with clinical psychotherapy. This is partially due to the widespread prejudice against psychotherapy itself, and partially to the poorly differentiated use of the term in psychotherapy around the turn of the century, so that the terms *suggestion* and *hypnosis* are often seen as (near) synonyms.

We have often observed that suggestopedia is sometimes rejected in didactic discussions as a viable alternative because of its name. It is therefore important to define the term suggestion more ~~specifically~~.

Not only in suggestopedia, but also in communication in general and in communication in teaching in particular, we can find all three forms of suggestion, as they are described by Stokvis/Pflanz (1961):

- *unintentional, unplanned suggestion* : the behavior and opinions of the teacher are copied.
- *intentional, unplanned suggestion* : the teacher consciously directs the behavior of the learners without making them aware of it.
- *intentional, planned suggestion* : the learners are prepared to learn certain behavior patterns and allow themselves to be directed by the teacher.

The way that a certain suggestion is perceived depends, on the one hand, on the suggestive receptiveness of the receiver, his so-called suggestibility, which we will discuss in more detail later, and on the other hand on the suggestivity of the suggestor, of the sender of the suggestion. The *suggestive ability* of a suggestor becomes greater:

1. if he has a reputation of being well-informed, of being an expert.
2. if he has the reputation of being an important person.
3. if he is attractive and seems to encourage trust.
4. if he makes an impression of being confident in his tone and general behavior, and is able to reject contradictions with ease.
5. if he is in a group that has a higher status than the communication partner.
6. habitually, i.e. if he shows an unusual amount of confidence in his general behavior.

See Stokvis & Pflanz (1961), Schultz (1952).

Seen from the point of view of the goal of educating people to be critical and vocal citizens, there can naturally be doubts as to the positive effects of suggestion. On the other hand, we should perhaps try to clarify what it would mean if teachers were *not* capable of certain suggestive attributes, if for example they

- would seem poorly informed in their subject,
- would not encourage trust,
- would be challenged and contradicted because of a lack of confidence.

Learning processes therefore occur with more success, the more the confidence of the teacher is carried over to the learner and the more the learner has the feeling of learning "correctly". This confidence alone, however, is not enough, because a repressive and competitive form of learning can just as easily be anchored in the learner by suggestive authority as a "humane social-coexistence consisting of sympathy, help, and understanding." See Tausch & Tausch (1979, 13). Responsibly used, though, the suggestive abilities of a teacher, which are present in all learning processes, represent an important factor for the constructive personality development of the learners and for the promotion of their social, communicative behavior.

The suggestive authority of the teacher must therefore have an emancipatory effect, which means that the learning process must be free from negative emotional reactions and thus free from inner *insecurity* and *fear* in the learners. The psychological and social climate which is created by the teacher decisively influences the learning situation and can constitute an overall atmosphere that is loose and relaxed or one that is cramped and causes fear. Every kind of fear, however, causes a "psychological or physical overactivation and thus puts limitations on flexibility and the ability to perceive, decide, and act in a differentiated way." (Furntratt, 1977, 41). See also Gartner-Harnach (1972); Krohne (1975; 1976); Andreas et al. (1976); Vester (1978); G. Dietrich (1972); Grossmann & Winkel (1977).

Therefore, fear, tension, and stress must also be eliminated by the creation of a relaxed learning atmosphere according to Lozanov, the founder of suggestopedia. This atmosphere is on the one hand created suggestively, that is initiated heterosuggestively, and on the other hand, autosuggestive processes are set in motion, such as the building of self-confidence and confidence in a personal ability to learn. Thirdly, group dynamic and social processes take place which themselves enhance the "suggestive climate" of the learning group. The emotional relationships among the numbers of the group are encouraged. They are no longer "afraid of each other" because they feel accepted and do not see the other members of the group as potential competitors (threats). Since each individual feels understood and accepted, he or she gains the courage to become motivated, to use his mental powers creatively, and to identify with the goals of the group leader and the group. Once the above-mentioned type of social behavior has been practiced, the individual participants react more attentively and actively with a group. The level of perception and the suggestibility of the group are thus enhanced.

The enhancement of the suggestibility of the learners, that is their ability to see the information contained in the instruction in a less rationally critical way, but rather to accept it emotionally, leads away from a one-sided emphasis on cognitive learning and activates learning potential which remains unused in other forms of learning. The negative view of suggestibility in learning processes as personality weakness, weakening of the ego, and the inability to be critical is, according to Hoffmann, (1977, 124 ff.) not valid: the ability to be critical is gained by reaching a certain level of knowledge: "One voluntarily becomes dependent for a short time in order to become even more independent later." From the beginning, the learner's knowledge of his goals and the teacher's frank explanation of the method create an atmosphere of trust which enhances the suggestibility of the learner and makes an emotional participation in the learning process possible. Other means for positively influencing the suggestibility of the learner, in addition to the factors and characteristics of the suggestor mentioned above, are the external atmosphere of the learning situation (appearance of the classroom), the interpersonal atmosphere at the first meeting, the learner's belief in the effectiveness of the method (so that the authority of the method is not questioned by the learner) and the suggestor's own belief in the success of his method. Suggestopedic foreign language instruction is therefore usually given in rooms which exclude all associations with "school" or "classroom". See also Schwerdfeger (1975), Vester (1978) for the negative effects of room furnishing.

This effect of suggestion, usually as unintentional suggestion, is clear in medical treatment: "Medication which is used incorrectly or which is misunderstood often shows surprising results. The same medication can have excellent success for one doctor, none at all for another, depending on whether or not *the doctor is convinced of the effects.*" (Hoffmann (1977, 116), italics ours). Hoffmann reports an involuntary double-blind experiment in which a doctor successfully treated a patient with X-ray therapy with a defective machine (neither the doctor nor the patient knew about the defect, and both were convinced of the healing effects: the suggestion of the doctor was carried over to the patient, whose suggestibility was appropriately developed.)

These processes, and their special dynamics, were first discovered in the realm of psychotherapy, and then found their way via group therapy to (group) teaching. (E.g., see Seidelmann (1975), Kuchler (1979); specifically for foreign la nguages: Schwerdtfeger (1976 & 1977), Schiffler (1980). The systematic inclusion of all these factors in the teaching process, and of their function there, is however a specialty of the suggestopedic method. See Baur (1980a & 1980b) for individual factors.

3. The suggestive method of Lozanov

The following is Lozanov's definition of suggestion:

> Suggestion is a form of psychological reflection in which a special readiness for the development of the functional reserves of the human psyche is created, mainly on the way to unconscious psychic activity. It simultaneously takes into account the informative and the algorhythmic prep rogrammed aspects. Suggestion is a result of overcoming anti-suggestive barriers in the course of a complex, closed, desuggestive-suggestive process. The relation between the means of a suggestive tie to non-specific psychological reactions plays a decisive role in this relationship. (Lozanov, 1971, 449).

In information processing, the main task of the senses is the *selection* of information or the reduction of the available information to meaningful percepts relevant to perception. (See Hajoz, 1972). Lozanov maintains that our one-sided orientation toward logical sequences, our belief in the necessity (our autosuggestion) that all information must be filtered through logical consciousness, leads to a huge loss of information, a reduction in the perception of available information and to an artificial reduction of the mental capacity of man. Lozanov calls these selective mechanisms of logical consciousness the *anti-suggestive barriers* . They make sure that peripheral stimuli, which could be perceived by the senses in a specific context, do not receive any attention because of the actual focus of interest. Thus they do not come into consciousness, even though they influence perception and memory by means of their suggestive effects. Every perceptive process is accompanied by such latent suggestive characteristics, but the anti-suggestive barriers prevent conscious perception and storage of them. Lozanov's goal is to raise the accompanying characteristics of primary stimuli and to overcome the anti-suggestive barriers of consciousness by means of "contra-suggestion." As a result, he expects a significant increase in the storage capacity of memory for the primary stimuli.

The process of overcoming the anti-suggestive barriers is *desuggestive* in that it reduces the types of behavior which have previously been internalized, namely rational-selective information processing, doubts about personal abilities, and other norms of socialization. The process is suggestive in that attitudes (autosuggestions) which are conducive to learning replace attitudes and norms which hinder learning. The ability for *non-specific mental reaction* is the ability to establish a *direct* involvement with the environments by unconscious mental activity, without recoding them for consciousness. (Lozanov, 1970, 9). This ability is summoned by "a great many non-specific stimuli such as: gestures, mimicry, movements, eye expressions, diction, intonation, and a series of ideomotor movements which cannot be consciously grasped. The environment, the authority of the source of information, the physiological state of expectation, etc. all play a role. (Lozanov, 1971, 148). The individual didactic steps of suggestopedia, by which

a) the desuggestive-suggestive processes are activated and
b) the non-specific mental reactions are mobilized

are actually more than a genuine system of information within their special constellation. They are really aspects of Lozanov's (1971) "integral psychotherpy", which he discusses in the second chapter of his major work.

It is very important for the application of suggestopedia that one is in full command of those components of the method which effect the desuggestive-suggestive process. In his studies of various psychotherapeutic methods, such as hypnosis, relaxation, reaction therapy, etc., Lozanov found that very different levels of success were achieved by different therapists using the same method. This led him to the conclusion that it is not the methods themselves that bring about certain good or bad results, but rather that certain psychological factors present in the way in which the methods are used represent the dominant elements. The methods themselves have, according to Lozanov (1977, 10), a mere placebo effect.

The placebo effect was determined by the use of so-called empty preparations which could not be distinguished from real ones because of packaging and the doctor's explanations. We speak of this effect when the empty preparations result in the same or similar effects as the actual medication. A (double) placebo-effect is seen in the X-ray therapy described previously. It would probably be Lozanov's intention to assume a double placebo effect for relaxation methods.

Lozanov cites the following basic desuggestive and suggestive mechanisms:

1. The prestige of the suggestopedic teacher must be emancipatory and activating for the learner.
2. The teacher must be able to convincingly work with gestures and mimicry a nd be able to construct situations well.
3. He must be able to clearly ritualize concrete processes.
4. He must have the ability to create an emotionally harmonious and socially positive atmosphere.
5. He must be able to perceive unconscious peripheral stimuli and to use them convincingly.

Within the framework of his suggestopedic method for foreign language teaching, Lozanov thus systematically uses the suggestive effects of authority (and infantilization), of accompanying markation, of intonation and rhythm, of music, and of ritualization. Ritualization is especially emphasized in the four presentation phases, which have come into the foreground of the discussion of suggestopedia because of their differences from all of the familiar foreign language teaching methods.

These phases are:

1. the first break-down: introduction of the new lesson's text (bilingual) with the help of artistic mimicry, gestures and movement,
2. the second break-down: bilingual presentation of the text with mimicry and gestures which are imitated by the learners as they repeat segments of the text,
3. intonational reading of the text segments in 3 different intonations (neutral, commanding, whispering), and
4. musical seance: the text is read over a backgound of classical (baroque) music; for more details see Bauer (1980).

Usually, though, the fact that the presentation phases are only the *memorization* phases, that they represent merely one-fourth of the instruction time, and that the material learned in these phases can only be transferred to productive abilities on the basis of effective forms of practice within a loose and socially positive atmosphere, has been overlooked. The unjustified identification of the *recognition* of isolated (foreign language) words with foreign language learning generally, as Lozanov did in his research, has been continued in this context in the majority of the American and Canadian learning experiments, so that statements about the formation of foreign language communicative abilities can not be made on the basis of this research.

American and Canadian experiments are, to a great extent, carried out with native speakers of English, see Schuster (1976), Schuster & Pansegrau (1977), Schuster & Miller (1979); Lozanov's basic experiments also make use of some Level 1 materials.

As an example, the learning experiments of Benitez-Bordon & Schuster (1976) can be mentioned here. In them, a significant improvement of memory of foreign language (Spanish) wo rds was found when a) it was suggested that learning is "easy and pleasant" b) instrumental baroque music accompanied the presentation of words, c) the breathing rhythm was synchronized with the presentation of words. The cumulation of these factors led to a further improvement of memory. Since the 50 new words were tested, with 50% L 1 and 50% L 2 stimuli and the percent of correct answers is not separated according to these criteria, we can ask, in addition to the communicative value of "vocabulary tests", what the relationship between receptive and productive skills is.

Lozanov himself specially emphasizes the effects of the so-called "musical seance" as a phase which promotes relaxation and memory. According to Lozanov, positive feelings and attitudes toward the material to be learned and the learning process generally are evoked by this phase of psychological and physical relaxation, and the anti-suggestive barriers are consequent ially eliminated. This fourth presentation phase *originally* took place in suggestopedic courses in the following way: the learner sat relaxed in a comfortable chair while the foreign language text was read by the teacher over a background of baroque music. The learners were told to let the music have an effect on them and *not* to concentrate on the text.

Lozanov calls the condition in which the learner finds himself in this phase musical *pseudopassivity* . He calls it *pseudo* passivity because the memorization of a great deal of information is made possible in this state, a fact that would not be possible in a state of genuine psychological passivity. Complicated, discrete psychological processes actually occur in this state of *external* passivity; moods, associations, and thoughts can unfold without inhibition. A considerable expansion of the storage capacity of memory, the so-called *suggestopedic hypermnesia* , comes into effect in connection with the music and the use of authority and infantilization. These elements create the basis for maximal mental and physical relaxation which is inhibited by a lack of security and trust. (An expansion of the storage capacity of memory means that in suggestopedic foreign language instruction up to 300 lexical units per lesson are learned. For more specifics, see Baur (1980 & 1981b).

In this form of presentation, the foreign language material moves nearer to the realm of marginal-subsensory stimuli, so that the object, which was originally perceived logically-analytically (cognitively) can also be perceived in another form. Research carried out at the Institute of Mnemology of the Karl Marx University in Leipzig supports the hypothesis that the inner balance of the individu al is positively regulated by certain types of music. (Lehmann, 1973). Second, the learning material is associatively connected with aesthetically pleasant experiences, by means of which intellectual tension is avoided. Such functions are, according to Lozanov, especially enhanced by the harmonious, melodious rhythmical intrumental baroque music, since the receptiveness of nearly all subjects for the emotional character of the music has been shown.

The effects of music and of musical rhythm on the change in the state of consciousness can be observed in all cultures (in ceremonial and mythical rituals and dances). Also, in present day music therapy and music education, specific use of these effects of music is made. (See Geck (1973); Pontvik (1955); for foreign language: Schwerdtfeger (1976; 84ff); see also Baur (1981b)). Lozanov chose among others, symphonies and concertos by Bach, Corelli, Handel, Haydn, Mozart, and Vivaldi as accompanying music.

In the second half of the 1970's, suggestopedic instruction using Lozanov's method was also given in Western countries, but without the spectacular success that the Eastern block countries repeatedly had. See Commission de la Fonction publique du Canada (1975); Ostrander & Schroeder (1979); Todesco (1978); Belanger (1978); Mignault (1979); these publications also have further bibliographical information.

Our intensive study of Soviet sources and personal experience with suggestopedia in the USSR, where unusual results are achieved *without* special relaxation exercises, lead us to believe that important activation elements are missing in the Western adaptations which can not be compensated for by intensifying the relaxation which is only receptively effective (See Baur, 1981b). However Schiffler (1981b) does not recognize the effects of suggestopedic foreign language instruction either when he reduces the suggestopedic principles to an ability of the teacher to create "interactive" language instruction.

The partially self-contradictory statements of Lozanov himself led the Western supporters of suggestopedia to assume that the "secret of success" lay especially in the relaxation techniques which were used in the East and which were purposely kept from the Western "importers." The enormous increase of memory, the so-called suggestopedic hypermnesia, would, according to this idea, be directly connected to the change in the state of consciousness or to the depth of the relaxed state of the learner in the phases of the memorization processes reserved for relaxation. In the U.S.A. and Canada, the third presentation phase (intonational reading or "active seance") and the fourth presentation (musical seance) are both seen as such phases. In them, different forms of methodical relaxation are practiced as essential elements of suggestopedia, and research in suggestopedia concentrates almost exclusively on the effects of these phases. See Bancroft (1977, 1978 & 1979); Mignault (1979). However, the authenticity of these adaptations could be doubted.

A comparative measure of the effects of music and relaxation which considers the physiological parameters is a prerequisite for estimating the effects of these two variables. The intention of our research was to show a possibility for this kind of comparative measure.

However, our results should be viewed as preliminary at this time, since they have not yet been statistically tested.

4. *A test of the relaxation and music variables in suggestopedic foreign language instruction*

In order to investigate the effects of relaxation and music in suggestopedic foreign language learning, we took the following steps. We introduced new texts in two groups of students of Russian (see below), during which we strictly followed the four phases of suggestopedia. In preliminary conversations we had built up a positive attitude toward suggestopedic materials and presentation methods in the learners. We tested the retention level of the foreign language material after the presentation phases, since the different type of activation of the learner in the practice phases, which are mainly in the form of role playing, presented a variable which strongly reduces the possibility of drawing conclusions about the effects of the presentation phases, or even makes it impossible. The investigations described here were carried out either in the "Practice for Applied Psychology" in Dortmund (Director: M. Eichhoff) or at the University in Bochum. The experimental suggestopedic instruction itself was conducted by R. S. Baur.

The specific order of the presentation phases is one of the main innovations of suggestopedia, since role playing in various types of groups has recently been used in many forms of foreign language teaching in the practice and transfer phases. See Schwerdtfeger (1977), and Schiffler (1980). In order to investigate the effect of relaxation in the fourth presentation phase, the so-called "musical seance", we changed the presentation of the different texts in a controlled way: the text was read in this phase with normal intonation and translation. During this phase just one of the following was done:

a) The learners were in a normal waking state and concentrated on the text, or

b) The text was read after the learners had been put into a state of psychological and physical relaxation by means of methodical relaxation exercises, or

c) The text was read while the learners listened to baroque music, as is normally practiced in suggestopedia.

The subjects were ten female and three male students of Russian at the Ruhr Universitat Bochum (ages 19-25) who had all taken at least one semester of a Russian course (8hrs/wk) from the experimenter. Because of this, it was possible, on the one hand, to accurately evaluate the Russian knowledge level of the individual learners, (which is important for the interpretation of the results), and on the other hand an atmosphere could be developed in the group which was a good basis for relaxation. It is not possible to create a relaxed situation *on short notice* , if the creation of a relaxed learning atmosphere had somehow been hindered previously.

In order to measure relaxation levels we used PGR (Psychogalvan-

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ic Respose) monitors, which gave the researcher and the subjects feedback in an acousitc or visual form about galvanic changes in skin. This way it was possible to control the state of relaxation of the learner for the *entire* time period involved in phases b) and c) above. The appearance of *external* calm does not allow any conclusions to be drawn about the actual psychological and physical level of relaxation of the learners.

The galvanic skin reaction, or so-called psycho-galvanic reflex (PGR) refers to electric processes in the skin which accompany external and/or internal stimuli. They go back to the presecretory activity of the sweat glands and the change in permeability of the cell membranes of the epidermis. The PGR has been used as a reliable, indicator of psychophysiological measurements in psychology since the turn of the century (e.g. by C. G. Jung in his investigations of word stimulus scale; the so-called lie-detector in forensic psychology and medicine also works on the same principle). A good point for measurement is the fingertips (palm side); we attached the electrodes in our investigations to the subjects' first and second fingers.

The PGR monitors were normally used for so-called biofeedback training. The trainee can see the connection between his psychological behavior and his somatic reaction on the basis of a signal (usually acoustic or visual) and thus learns to direct this behavior, i.e. he learns to lower the level of his excitement and tension so that neurovegative disturbances (e.g. tension headache, poor sleep, irregular heart beat) can be reduced or avoided. Seen from the viewpoint of learning theory, this process can be seen as one of conditioning (see Legewie & Nusselt, 1975).

It was not our goal to initiate *learning processes* with biofeedback, but rather we used the machines mainly to *measure* the level of psycho-physiological activation.

The psychosomatic reaction patterns of the subjects were additionally verified with further biofeedback measurements. On the basis of our data, we were able to establish a necessary basic aptitude for relaxation in our subjects. (This means that we were able to establish whether at a certain time the sympathetic, or parasympathetic nervous system was more activated. For specifics see Legewie & Nusselt (1975); Hoffmann (1977); Vester (1976). The covariation of EMG, thermal, and PGR values, which we tested by simultaneous data collection, also allows the conclusion that our PGR data are representative, and that we may safely generalize about the psychophysical level of excitement of the organism for our subjects.

It was found necessary to give the subjects a systematic introduction to relaxation techniques in order to be able to test the effects of relaxation in the above context of suggestopedic phases of instruction. In addition to autogenic training, Jacobson's "Progressive Relaxation" can be viewed as the method which is used most often (and which has been most often investigated in the field of psychotherapy.) See also Graessner (1977), who used similar arguments as the basis of his investigation.

In order to save time, we decided to use Jacobson's method. This method can be learned more quickly than autogenic training, and guarantees relative relaxation, i.e. a reduction of the actual level of action according to the psychophysical parameters mentioned above. For the introduction to the technique of progressive muscle relaxation, we used a system that is used in the practice of applied psychology:

Exercises for progressive muscle relaxation

1. Sit down upright on something soft (bed, foam pad) and stretch out your legs in front of you.
2. Slowly draw up both shoulders and tense the muscles of your neck and shoulders, count to 15 or 20, and let your shoulders fall.
3. Roll your head slowly to the right four times, then to the left.
4. Put your chin on your chest, breathe in deeply through your nose, and breathe out while letting your trunk fall back softly. Lie quietly with eyes closed.
5. Now concentrate on your right leg. Raise your (outstretched) leg about 40 cm. high and tense it strongly. Think of the individual muscles, from the foot to the hip. Hold the tension as long as possible, then let your leg fall.
6. Do the same with your left leg.
7. Raise your right arm about 40 cm., make a fist, and tense all the muscles in your arm and think of all the single muscles from your fist to your shoulder. Then let it fall.
8. Do the same with your left arm.
9. Breathe in and out deeply three times, leave your eyes closed, and imagine that there is a large circle on the ceiling above you. Along the outline of the circle, a lighted point is travelling around and around four times to the right and four times to the left. Follow the point around.
10. Now imagine a square, around which a point is travelling, four times to the right, then four times to the left.
11. Remain lying completely still, go to sleep, or decide yourself when to get up
12. WAKING:

    breathe in deeply, four or five times. The fifth time hold your breath, tense all muscles briefly but strongly. Breathe out and open your eyes.

We had a total of five preparatory sessions, during which relaxation was practiced, and the subjects were given a chance to become accustomed to the teaching and testing situation. In these sessions we used the PGR monitors as deepening catalysts, i.e. the subjects learned to deepen their relaxation with the help of a feedback tone. Deepening is the process of sinking into self and switching to the vegetative system, which can be measured with the above psychophysical data. At the same time they could become accustomed to using the apparatus which would also be used later to give the investigators feedback as to the level of relaxation of the subjects.

In the last two sessions, we began to present foreign language material to the subjects after they had achieved deep relaxation (after about 7 minutes). The subjects were previously advised *not* to pay attention to the texts, but to remain at their level of relaxation. After "waking up" from their relaxation, we administered vocabulary tests, also to accustom the subjects to the coming experimental sessions.

5. *Texts and Tests*

As already mentioned we strictly followed Lozanov's four presentation phases, and we varied the fourth phase. We chose texts which had a coherent content, since we think that meaningful learning can only be brought about in this way. (We doubt that the learning of isolated words can be compared with learning in a meaningful context.)

The texts contained 450 lexical units (LU's) on the average, of which 40-50 were new to the learners. Since the words were always in a context, and words in suggestopedia also never appear as isolated vocabulary items, we decided to use a test form that would retain the context, but also tested the ability for reproduction in the foreign language, since suggestopedia has the goal of promoting *productive* abilities. (Lozanov cannot find evidence for this in the test form of translation to L 1. See also Baur 1981a&b). We tested retention by fill-in-the blank tests: the foreign language texts, which were given to the learners in this original form with the translation in L 1, where the words which were to be reproduced had been left out. Forty-two test items were given per text, on the average.

The texts were graphically organized so that the text in the target language appeared in the left column and parallel to that the translation in the right column. See also Baur (1980). The number of test items which were used in the computations varies because the number of words known by each subject had to be subtracted. The information about which words were known was given by each subject during the test.

The tests were administered regularly

a) directly after the four presentation phases, and

b) one week later.

Several texts were additionally tested after two months, both as translations to and from the foreign language, as in *a* and *b* above.

During the test evaluation we paid special attention to the reproduction ability after one week, since the learned material must be recalled from long-term memory for such a test.

A relatively long interval between the presentation and the reactivation of the learning material is, on the other hand, the rule in distributed learning (as opposed to intensive courses). Therefore recall from long-term memory also seemed interesting after this time period (See Foppa 1975; Denig 1972).

Since the learning process cannot be seen as completed because the practice phases were not included, and since the testing of the retention levels after two months is therefore not very conclusive for language learning, we have not carried out a comparative analysis and interpretation of these data. It seemed most important to determine whether clear differences between translations to and from the foreign language could be found, in order to test how far our critique of Lozanov could be supported by our data.

Since the subjects came from two different language courses, two groups were formed which were equivalent to two classes. Group 1 had four subjects, group 2 had nine, but only 7 could attend regularly.

6. Results

The results are summarized in Tables 1 and 2. The cases in which the necessary level of relaxation could not be reached by the subjects have been marked with an asterisk. This is especially the case for Test 3 in the first group. As opposed to Trial 2, which was carried out successfully in the "Practice for Applied Psychology", Trial 3 was carried out at the university. All four subjects had taken a language course together before, from which they were under such stress that none of them was able to relax. It is clear from this example to what extent the conditions which are partially created by institutions can influence the learning atmosphere without the reason; being in the present instruction. We were only able to discover this situation on the basis of our psychophysiological measurements, since the subjects seemed (externally) completely calm. We did not include this trial in the means shown in Table 1 since we wanted to characterize the effects of psychological *relaxation* . However, the trial shows how difficult it is to bring about relaxation and to estimate the actual level of relaxation accurately. It is another phenomenon that some subjects (Werner in Group 1 and Martin in Group 2) *fell asleep* at times during the relaxation phase. We do not know how to separate this unplanned "sleep learning" from the other data.

Table 1 shows a significant influence of the variable psychophysical state on the reproduction ability of the subjects (Friedman Rank analysis of variance, Chi-Square = 6.55; p = 0.05). When we carried out a multiple comparison among the rank sums of the groups without relaxation, with relaxation, and with music (Sachs 1974, 426 ff), we found a significant difference only between the group without relaxation and the group with music.

If we compare the rate of LU reproduction in the group without relaxation with the group with relaxation, there seems to be a *tendency* for the reproduction of a greater number of items with relaxation. This tendency can not be shown to be statistically significant, however, even though it is definitely possible that we would see a significant difference if the sample size were larger.

We are not able to approach the amazing results of Lozanov in any way. In our data, the *individual differences* are very great, and we even see striking changes in the LU reproduction ability of the same person without being able to name reasons for such changes.

Finally, the picture is in no way unified. Irene (Group 2), for example, achieves her best results in the presentation without relaxation

Table 1:

Mean of the Rate of LU reproduction after 1 Week (in %)

Group I	without relaxation	with relaxation	with music
Ingrid	5 (1)	30.6 (2)	31.4 (3)
Sabine	7.3 (1)	28.2 (3)	28 (2)
Gabi	22.9 (1)	47.2 (3)	32.6 (2)
Werner	18 (1)	29.2 (2)	55.8 (3)
Group II			
Barbara	57.4 (1)	75 (3)	74.6 (2)
Bettina	6.2 (1)	20.5 (2)	22.8 (3)
Bibi	17.1 (2)	16.1 (1)	22.8 (3)
Christiane	9.6 (2)	9.1 (1)	14.2 (3)
Irene	51.8 (3)	30.8 (1)	44 (2)
Martin	63.5 (1)	91.5 (3)	88.2 (2)
Olaf	66.2 (2)	58.3 (1)	67.6 (3)
Overall Mean	29.5	39.7	43.8
(Σ)	(16)	(22)	(28)

Note: The mean was figured for Group I from Texts 1 and 4 (without relaxation), 2 and 5 (with relaxation) and 6 and 7 (with music) and for Group II: 1 and 2 (without relaxation), 3 and 4 (with relaxation) and 5, 6, and 7 (with music). Test Nr. 3 was not included for Group I (see text). For Irene, the data was figured differently due to absence.

Table 2:

Translation to L 1 after 2 months (in %)

	Text 1	Text 2
Ingrid	82.5	87.5
Sabine	80	82.5
Gabi	65	60
Werner	92	80
Barbara	96	80
Bettina	52	62
Bibi	56	66
Christiane	62	50
Irene	96	80
Martin	96	96
Olaf	96	90

and music, and it is also difficult to reach a clear conclusion with Olaf. It would be possible

- that these subjects had reached a relatively high level of relaxation in the "normal" presentation,
- that they had not reached an *optimal* level of relaxation in the other trials,
- that relaxation or music does not have any effect on certain subjects.

Further investigation is necessary to be able to make more exact statements to these points.

When we speak of individual differences, we not only mean certain psychophys iological characteristics, but also the previous knowledge of the learner. It seems very important for the LU reproduction ability in our investigation how much previous foreign language knowledge the learner had, even though both weaker and more advanced learners were dealing with equally unknown LU's. Only the more advanced learner can order the unfamiliar material in already existing structures, combine and associate it with more familiar surroundings to which the entire foreign language context belongs, while the beginner can only reproduce a few structures as meaningful texts. As an example for the possibilities of cognitive processing in the advanced learner, we can mention the combination with mentally (intuitively or explicitly) represented rules of word formation. As Denninghaus (1976) showed for Russian, the learner has an enormous *potential* vocabulary in this way. The connection to what is known is intensified for the advanced learner this way, and the memory mechanism is enhanced. See for example Ausubel (1968 & 1980); Berlyne (1960); Foppa (1965); Vester (1978).

This is the only way that we can explain the fact that subjects like Barbara, Martin, and Olaf show very good memory for LU reproduction from long-term memory (Colunm B), while a memory increase of 100% with relaxation (music) in other subjects (Bettina, Bibi, Christiane) only means a memory level of 8-10 LU's. (We remind the reader here of the hundreds of words which were "achieved" in Lozanov's comparable investigation!)

We choose not to comment here on the individual results of translation *from* the foreign language, (Table 2). In this point we can reiterate our critique of Lozanov. See Lozanov's discussion in Baur (1981a) as well as the thorough presentation and critique in Baur (1981b). The results support the generally acknowledged difference between LU reproduction abilities (translation *to* the foreign language) and LU recognition abilities (translation *from* the foreign language), which Lozanov's presentation methods in no way override, (e.g., see Joppa (1965, 25 & ff.)

Finally, we would like to draw attention to a difficulty in the measurement of reproductive abilities which is not unimportant for further experiments. The question is from which degree of correctness of reproduction an LU may or should be included in the evaluation.

7. *Facets of the Investigation*

Our investigation of the variables "relaxation" and "music" can in no way be seen as an evalutation of suggestopedia generally. Three-quarters of the instruction (the practice phases) are missing, and we consciously omitted them in order to maintain a clear overview of the variables involved. We wanted to show a way to gain more specific knowledge about the function of the individual phases of instruction.

If suggestion has entered this investigation as a reciprocal effect, then it has certainly effected the investigation negatively: the investigators wanted to *test* something and therefore did not have the necessary suggestive powers.

Generally, however, we believe we can support the idea that relaxation and music in no way effect learning success or memory capacity negatively, and very probably have a positive effect on these.

The conclusion should not be drawn from this statement, however, that music always leads to relaxation, but rather that a prerequisite for an effect is the presence of a relaxed learning atmosphere. It is also difficult to relax when one is sitting next to an "enemy", even if music is playing. For this reason we placed great value on evaluating the learning atmosphere with a questionaire. The learning environment of the university, which often awakes negative associations, is certainly very unfit for relaxed forms of learning: suggestopedic instruction should take place in areas which [illegible] all associations with "school classrooms". One should have the impression of meeting friends in a living room somewhere. The variation of this environment is a further variable which should be investigated in relation to the success of suggestopedic learning (in its effects on secondary perceptions).

8. *Perspectives*

The positive aspects of suggestopedic foreign language instruction are just as clear as the negative aspects. The following is a summary of several central issues from the discussion of suggestopedia:

- the *social atmosphere* , which *must* be created, brings about learning without stress and therefore leads to enhanced readiness for perception.
- such learning has *identity-supportive* and *personality-stabilizing* effects.
- *important emotions* , which are threatened with extinction in today's schools, are activated: the learning individual is advanced socially, emotionally, and intellectually.
- the *homo ludens* is (re-)activated.
- by means of the interplay of conscious and unconscious perceptions, a multiple anchoring in *memory* is aided and unusual potential activated.
- by *reducing the technical aspects* of instruction, the human being and (in the interactive practice phases) partner-oriented communication stand in the foreground.

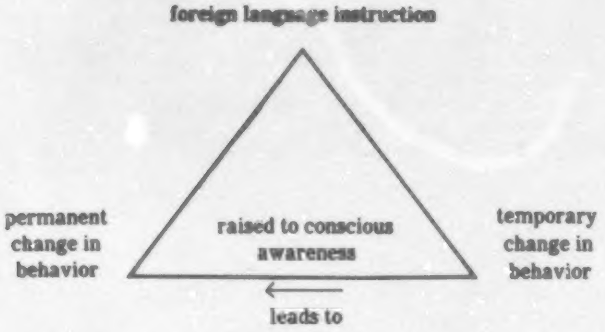
The negative aspects are to a large extent only negative in that it is not easily possible.

- to find and educate people who are in a position to create the above-mentioned conditions.
- to find or create institutions in which the general social atmosphere is compatible with the intentions of suggestopedia.
- to find appropriate groups in which to use suggestopedic foreign language instruction. There is as yet no model for such instruction which is not based in fairly rigid group organization.

Investigations of suggestopedia have, however, revealed further perspectives which point beyond the goal of learning a foreign language. Through a new form of learning, which creates a positive group experience and thus successful forms of social interaction, suggestopedic learning is also automatically social learning. The positive social-affective experiences lead to self-acceptance, which in turn leads to greater tolerance and readiness for communication - processes which, seen in the light of behavior therapy, are likely to prevent neurotic tendencies and lead to "better", that is, socially integrative, behavior. Suggestopedic foreign language instruction can therefore have effects which are not only stabilizing for the learner's personality, but also psychologically and developmentally positive. (See Velvovskij (1975); Lozanov & Balevski (1975)).

Since the forms of learning and teaching which are usually practiced in our educational institutions are mainly oriented towards a one-sided teaching of knowledge and abilities, the emotional and social needs of the learning individual are often completely ignored - which often leads to major behavioral problems. The effects of suggestopedia which stabilize the personality and are psychohygenic in nature, and yet show a simultaneous increase in the readiness to learn, present a phenomenon which certainly offers us important aspects for the development for new, more human and socially integrative forms of learning.

In suggestopedic foreign language learning, the learner is almost forced to follow a behavioral mode for pro-social communication strategies: text structures, role descriptions, practice forms, and the behavior of the teacher all offer no possibilities for aggressive or destructive behavior. The learners all quite readily accept the forms of behavior offered by the teacher because they are "dependent" in a certain way in the foreign language, and the "new" foreign language socialization is presented by the teacher's model. Thus any prosocial behavior which is learned can even become a *primary learning goal* in the form of desired change in behavior: foreign language instruction has in this case merely the function of a catalyst. By making a change to prosocial behavior, which is manifested in the learners during a course, conscious, this change in behavior, *temporarily* brought about by the course, can be extended to a permanent behavioral change if the learner recognizes the behavior that is being realized as a desirable alternative. The three goals of learning which can be reached with the help of suggestopedic foreign language learning can thus be presented schematically as follows:


foreign language instruction
permanent change in behavior
raised to conscious awareness
temporary change in behavior
leads to

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La Suggestopédie: Réflexions et Recherches

Dans ce rapport les auteurs ont deux intentions: discuter les bases psychologiques de la Suggestopédie et examiner en détail les éléments de la relaxation et de la musique suggestopédiques. En même temps on parle d'autres méthodes d'enseignement utilisées en Union Soviétique et surtout de ces méthodes qu'on pourrait considérer comme précurseurs de la Suggestopédie en ce qu'elles sont basées sur les mêmes hypothèses psychologiques. Les auteurs présentent leurs propres méthodes expérimentales et les résultats de leurs recherches. En conclusion, ils parlent des résultats de la méthode suggestopédique et discutent les recherches qu'on pourrait faire à l'avenir afin d'approfondir les bases psychologiques de la Suggestopédie.

Suggestopädie: Überlegungen und Untersuchungen

In diesem Artikel haben wir zwei Absichten: die psychologische Basis für Suggestopädie einschließlich einer kurzen Beschreibung von Unterrichtsmethoden, die man einmal in der UdSSR verwendete und die als Vorläufer der Suggestopädie betrachtet werden können, da sie auf einigen gleichen psychologischen Grundsätzen basiert sind, und die Elemente von Entspannung und Musik, wie sie in Suggestopädie verwendet werden, ausführlich zu untersuchen. Das Letzte wurde erzielt, indem wir über unsere eigenen experimentellen Methoden und die Daten von diesen Untersuchungen berichten. Zuletzt diskutieren wir die Ergebnisse und die Perspektiven für die suggestopädische Methode und für weitere Forschung nach deren Elementen, was zu einer tieferen Einsicht in die psychologische Basis der Suggestopädie führen könnte.

SUGGESTOPEDIA: CONSIDERACIONES E INVESTIGACIONES.

Nuestras intenciones en este ensayo son dos: Discución de las bases psicológicas para la suggestopedia, incluyendo una descripsión general de otros métodos de enseñanza una vez usados en USSR los cuales pueden ser vistos como precededores de la sugestión (ya que ellos son basados en las mismas premisas psicológicas), y examinar los elementos de relajación y música usados en suggestopedia en mas detalle.

Esto es alcanzado reportando nuestros propios métodos experimentales y data de estas investigaciones. Finalmente, nosotros discutimos los resultados y las perspectivas para el método de suggestopedia y para mayores recursos dentro los elementos de este, lo cual puede guiar a un entendimiento mas profundo de las bases psicológicas para la suggestopedia.

J. of the Society for Accelerative Learning and Teaching, 1981,
6(4)

The Fundamental Problems of Suggestopedy

Eva Szalontai

Translated by A. J. Lewis

Abstract

This report reviews the early work on Suggestopedia in Eastern Europe and presents some of the original work on Suggestopedia in Hungary, especially in foreign language teaching. Topics covered are the teaching of reading and math, history of the spread of suggestopedia, Hungarian experiences, conclusions and implications.

Suggestopaedia in the Teaching of Reading and Mathematics

The latest research supports the contention that suggestopaedia is in a position to significantly accelerate and enhance the teaching of the native language and mathematics in primary schools by virtue of the pupil's comprehensive paedagogical involvement. Living as he does in the times of scientific-technical revolution, the pupil is not a cybernetic robot, but a feeling and thinking creature for whom it is necessary to ensure from the very first grades in primary school onward that assimilation of information be a rejoicing, merry and attractive activity, rather than an anguished torment (Lozanov, 1975).

Suggestopaedia enriches the reading and mathematics subject matter of primary schools with various artistic means, for example, music, literature, games, artistic renditions. As a result, the pupils do not attend dull lessons; they are attentive and active, and their performance is not impaired by fears and apprehensions of the teacher or the subject matter. Their personalities and pent-up energies are released enabling a much brisker assimilation of the annual curriculum than ususally envisaged. The pupils spend the released extra time with physical training, plays, singing and foreign language study. For example, the pupils of the 122nd Experimental school in Sofia assimilated the subject matter of the first two years of instruction within four to five months (Lozanov, 1975).

In addition to academic achievements, suggestopaedic instruction produced remarkable physiological and psychological results in the case of primary school pupils. The assimilation of the subject matter takes place in a free-wheeling enjoyable psychological climate. Insomnia, fatigue and exhaustion, so common in the lower grades of conventional schooling, are not typical occurrences here (Pollack, 1976).

In the base schools supervised by the Lozanov Institute, teachers use colourful and entertaining fairy tale books, pictures, fairy tale operas and complete sentences from the very outset to teach the pupils to read. In the 122nd Sofia experimental school equipped with up-to-date laboratories and control-rooms, which we have personally visited, the results are outstanding. In suggestopaedic instruction classes, the yearly subject matter is covered from the beginning of the academic year on September 15 to January 1. The first-grade pupils read quite fluently, without syllabification, whilst the second-grade pupils give well-nigh artistic, expressive renditions while reading.

Reading performance is recorded on the first and last days of instruction both in the experimental and control schools.

The statistical table seen in the next page gives corroborative evidence that reading performance in suggestopaedic experimental schools is much better than that in control schools. See Table 1.

Table 1.

Data from 2 suggestopaedic first grade classes in Sofia

	122nd experimental		139th control	
Test of reading skills	Initial level Sept. 17,1973	Final level May 21, 1974	Initial level	Final level May 17, 1974
Number of pupils	34	53	24	23
Recognizes not a single letter	23.53%	-	25.00%	-
Recognizes some letters	52.94%	-	33.33%	-
Spells as he reads	17.65%	-	12.50%	-
Reads by the syllable	5.86%	-	12.50%	-
Reads in word blocks	-	18.18%	-	34.78%
Reads fluently	-	81.82%	16.57%	65.22%

Mathematics is one of the thorniest subjects in first grade instruction. However, in the epoch of scientific technical revolation there is a mounting need for mathematical skills. Acting upon a recognition of that fact, G. Lozanov has fanned out the suggestopaedic experimental instruction to mathematics. In his experimental first grades the pupils are familiarized with all the basic arithmetical operations and taught to count up to 100. As early as the first half of the second year, the following equation with one unknown was introduced during the brief span of a few minutes,

$$8642-216.9-x = 2754$$

Parallelly, they can count up to a million, although they are never assigned home tasks (Rapcsak, 1975).

In the 122nd Sofia experimental school, the pupils embraced the

1973-1974 maththematics curriculum with suggestopaedic methods well ahead of the scheduled time, and a panel of experts ascertained that their performance was remarkable .

Let us observe the related percentage breakdown. See Table 2 (Lozanov, 1975).

Table 2

Mathematical performance of first 2 grades in Sofia schools

School	Grade	Test level	Test date	Number of pupils	Percentage breakdown
122nd experimental	1st	Initial level	Sept. 17, 1973	100	36.13%
139th control	1st	Initial level	Sept. 18, 1973	52	33.17%
122nd experimental	1st	Final level	Jan. 31, 1974	77	86.64%
139th control	1st	Final level	May 13, 1974	45	63.18%
122nd experimental	2nd	Final level	May 22, 1974	87	77.39%
139th control	2nd	Final level	May 14, 1974	46	5.38%

International Response to Suggestopaedia

Suggestology and suggestopaedia have recently acquired increasing renown and recognition. The Bulgarian Institute maintains relations with nearly fifty countries. On the basis of suggestopaedic research, agreements for cultural and scientific co-operation have been concluded with the Soviet Union, the United States of America, Canada, Austria, the GDR and Hungary.

There is a prolific popular and scientific literature in the field, diverse lectures are delivered, and dissertations are written and defended on the subject in all parts of the world, in Moscow, Washington, Los Angeles, Ottawa, Toronto, Vienna, Budapest, etc.

In many quarters, different types of suggestological and suggestopaedic based centers emerge. And it is very likely that they are the most numerous in the Soviet Union. Incidentally, the Soviet Union was the first country (besides Bulgaria) in the world to pay attention to suggestology and suggestopaedia. Given the fact that the Russian people do not believe in miracles, specialists from various fields of interest were sent to the Suggestological Research Centre in Sofia to thoroughly examine in theoretical and practical terms the effectiveness of the new method (Karpov, 1973).

In 1975, the U.S.S.R. Academy of Sciences established a paedagogical section for studying psychologically the new intensive methods of language instruction, suggestopaedia among them.

U.S.S.R. Deputy Minister N. Yegorov maintains that in the epoch of scientific-technical revolution specialists should be familiar with the technical literature in a given field and should acquire speaking habits enabling them to get along while on business trips abroad. Lozanov's method may be highly instrumental in achieving this type of knowledge.

Among the Soviet suggestopaedic institutions, the Moscow College for Foreign Languages named after Maurice Thorez is especially important. At the Chair for Adult Instruction, S. I. Melnik, head of the chair and candidate of peadagogical sciences, together with G. A. Kitaigorodskaia, candidate of philological sciences, guide the suggestopaedic instruction of several hundreds of students in French and English languages. Before the introduction of suggestopaedia, the College for Foreign Languages experimented with numerous techniques, such as the direct, grammatical, translational, audio-visual and audio-linguistic methods, as well as with a combination of these. However, none of them was successful in solving the ramified problems inherent in adult instruction, whereas the application of suggestopaedia brought about amazing results with adult students from all walks of life, journalists, technical people, scientific workers. The method improved their memories, kindled their willingness to speak, reduced their hangups and fears (Marjorova, 1973). In the view of G. A. Kitaigorodskaia, it is possible to impart with this method a working knowledge of a foreign language within five weeks. The Moscow College for Foreign Languages named after Maurice Thorez had its teacher designates traned for the task with Dr. Lozanov's technique in Sofia. The two institutions continue to cooperate to date.

Assistant professor I. Sehtiar, then head of chair at the Thorez College was coached in suggestopaedia to try it later on at the Moscow College for Construction Industry, as well as at numerous courses for the Press Agency Novosty, the Aeroflot and the Morflot. Moreover, the scholar strived to improve upon the technique relying on the latest achievements in the Soviet physiology, philology, sociology and Leontyev-inspired psychological school. At his courses, I. Sehtiar makes recourse to the most uptodate equipment. [illegible], he has ordered linguaphone electronic audio-visual equipment from Hungary. Each of Sehtiar's language courses lasts two to three months. Within this period of time, his students acquire efficiently a vocabulary and speaking habits and are able to converse fluently with foreigners, to read and translate foreign newspapers and special literature. However, their pronunciation, spelling and the grammatical structure of their sentences leaves much to be desired. Based on Professor Lozanov's improved method, Sehtiar's was named the emotional-rational technique (Silvins, 1975).

Kharkov is another avenue of Soviet suggestopaedia where the method was scrutinized in great detail by a panel of psychologists, psychiatrists and physiologists under the guidance of Professor I. Z. Velvovsky, doctor of medical sciences. Suggestopaedia was tested in a

French language course. Twelve students of different age groups and fields of occupation took part in the course for 26 days on end, with four hour sessions daily, and assimilated about 2000 lexical units without studying at home. Medical observations have proven that the students at the course did not feel fatigue. On the contrary, they slept well, developed an edge to their appetites and their spirits heightened. In-play situations helped them relax and rid themselves of tensions. Professor Velvovsky suggests that any physiologically and psychologically sound person is susceptible to the Lozanov method.

The State Paedagogical Institute for Foreign Languages in Minsk contributes to suggestopaedic research, with its lessons in English, German and French, being recorded with a video camera. It was observed that the TV filming at first caused tensions, but later it provided for the students an increasing impetus to better performance.

Great progress in the history of Soviet suggestopaedic instruction was made in January, 1974 at the International Intensive Scientific Language Instruction Conference organized by the Moscow College for Foreign Languages named after Maurice Thorez and sponsored by S. I. Melnik. Participating in the conference, in addition to numerous representatives of Soviet nationalities, were delegates from Bulgaria, the G.D.R. and Hungary.

At the conference, Dr. Lozanov was in a position to present the special textbooks pertaining to his method. Besides, he joined his associates in reporting that suggestopaedia which was initially employed to develop speech habits in a foreign language is presently being expanded to instructional techniques in all subjects.

In Canada, G. G. Duclos, general director of the Public Service Commission, was the first to lend his ear, in January, 1971, to the experiments of the Bulgarian psychiatrist Georgi Lozanov which heralded striking discoveries in the field of instruction, notably adult instruction. In the wake of month-long talks between the Suggestological Scientific Research Centre and the Canadian Public Service Commission, and subsequently between the Canadian Government and Bulgaria, Mr. Duclos was given permission to go to Sofia together with a research group in order to study the Lozanovian method and to explore the possibilities of efficiently employing the Bulgarian method in Canada's instructional and educational system.

The Canadian team included Professor Gabriel Racle, the would-be head of suggestological instruction, two language teachers and two experimental sociologists. In 1972, the team spent half a month at the Sofia Suggestological Scientific Research Centre in order to study and to assemble information.

Upon their return from the study tour in January, 1973, they elaborated plans for four Lozanov-type experimental courses aimed at teaching English to French students. The two language programme was supervised by Mr. Duclos. The initial experiments may be considered fruitful. After seventy hours of instruction, the students' speech hangups dissolved, and even those who never studied French before could live up to the requirements of Canadian bilingualism, outpacing for example, their relatives who had been trying to grapple with French for years. The Lozanovian method helped sweep away the psychological barriers within th students and augment their receptiveness. In Professor Gabriel Racle's view, the teacher's role is central. It is essential for the teacher never to elicit negative reactions; the timbre of his voice, the modes of expression, the facial movements must all combine to create a relaxed atmosphere and a concentrated frame of mind (Dampier, 1975). In recent years the Canadian suggestopaedic experiments have increasingly gravitated toward Montreal and Toronto.

At the Toronto University, Dr. W. J. Bancroft perseveres in her studies with almost Higginsesque patience and contagious vitality. J. Bancroft holds the view that the more confidence the teacher places in his students, the higher he holds them in esteem, the better performance he can attain (Bancroft, 1973).

The head of the French chair at the Toronto University, she has also visited Hungary to exchange experiences. She lays enormous emphasis on the objective paedagogical stimuli, on classroom environment and music, among others. In the halls at the Toronto University where suggestopaedic experimental instruction is conducted, the walls and the furniture are painted in blazing colours, the floor is covered with pastel-hued thick soft carpets. The irritating or soothing stimuli emanating from colours are put to good use during instruction. Analytical tests are carried out to select appropriate background music. Marches were also given a thought, but did not score much success.

An International Suggestological Seminar was held in Ottawa between September 3-6, 1974 under the sponsorship of director Gerry Duclos. At the conference, Bulgaria and Hungary were the only two socialist countries to represent themselves. Professor Lozanov represented Bulgaria, whereas Hungary delegated Artur Szentgyorgyvary and Eva Szalontay. The other participants came from the United States of America, Canada and Great Britain.

The seminar was inaugurated by Gerry Duclos, general director of the Canadian Public Service Development Center and G. Racle, director of suggestological instruction. In their contribution, both speakers stressed that from 1973 onward they cooperated with Dr. Lozanov and his Research Institute in order to learn his methods and to test them in the Canadian context. The role of foreign language teaching in Canada, with its prevailing bilingualism, was also pointed out.

After the inauguration, the seminar continued with the examination of achievements scored hitherto. The teacher's personality, the students' work, the opportunities for international cooperation and the prospects of the method were thrashed out. The results were recorded on tapes and TV films. Role-playing games were regularly filmed for TV. At the outset, this embarrassed the students; later, however, it stimulated their efforts at communication and their eagerness to speak. The results were corroborated with abundant statistical evidence (Public Service Commission, 1974).

In November, 1975, the Canadian Public Service Development Center dispatched an information letter all over the world to the specialists occupying themselves with suggestology and suggestopaedia (Racle, 1975). As indicated in the letter, it is aimed at keeping in touch, exchanging experiences and assembling information.

Nowadays, Cuba, Japan and Venezuela have joined the club of suggestopaedic research. But let us take a glance at Europe again. Among the suggestological based institutions, of outstanding importance is the Leipzig headquartered research centre in the German Democratic Republic, the Forschungsabteilung fur Mnemologie at the Karl Marx University, otherwise called Suggestopedisches Zentrum, headed by psychiatrist Dr. med. K. Janicke. The Institute brances out its research work and practical experiments in a number of directions. Well qualified psychiatrists, educators and psychologists explore the possibilities of utilizing the Lozanov method in the G.D.R, primarily in the field of foreign language teaching. The research institute is also concerned with mnemonics with regard to suggestopaedic adult instruction in the Russian, English and French languages, and to suggestopaedia.

The term "mnemonics", or the science of improving memory, is derived from Greek. It is a technique comprising a system of practical procedures facilitating the memorization and retrieval of designations and information. In Dr. Janicke's view, memory research is indispensable for enhancing the effectiveness of both teaching and learning process. In this respect, equal significance is attributed to motivation, attitudes and adjustment which may appreciably improve mnemonic receptiveness.

With customary thoroughness, the research workers from Leipzig extended their scope of activity to the theory of suggestopaedia. As Dr. Janicke has defined it, suggestopaedia is preoccupied with influencing man in the state of wakefulness by contributing to an improved mnemonic capacity and repudiating everything which is not confidence-building. It perfectly isolates the pupil from any external influence. An almost psychotherapeutical climate is created, and the principle of commanding authority is stressed. The principle of authority has proved the easiest acceptable for the German teachers, because in the German educational system there persists the Prussian spirit of yesteryear with its emphatical stress on the teacher's authority. Yet, in this case, it is desirable that the authority should be psychotherapeutical, not even remotely domineering, but rather confidence-building, humane and at the same time standoffish. It should radiate authority toward the institution, the subject matter, the teacher and the methods. The subject matter is vast, and according to the Leipzig educators, the vaster it is, the better opportunity for drilling (Janicke, 1975).

The evidence assembled proved that 350 new words or lexical items can be imparted during a lesson. These can be reinforced only if adequate drills follow them up. The emotional drive stemming from an awareness of cognitive advantages and satisfaction of desires hinging on mastering a new language, rather than language study for the study's sake, stimulates phenomenal productiveness.

The mnemonic research centre at the Karl Marx University in Leipzig organized an informative scientific conference at the end of November, 1978 on "The Theory and Practice of Suggestopaedia in Foreign Language Instruction". Professor K. Janicke, director of the Research Institute, dwelled on the role of the conscious and unconscious in the suggestopaedic process pointing out that in any communicational processes, teaching included, these two factors are inseparable.

Unconscious information is not wasted by the conscious. Perceptions sunk from the centres of unconscious to the periphery can be retrieved on short notice. This explains why the brain may receive large amounts of information over a relatively brief period of time which are digested to become conscious and automatic through drilling. The German expert D. Lehman studied the role of situational games and music. He attempted to discover the brain mechanisms set into operation by music and movements. It was stressed that auditory sensory appeals are demonstrably more lasting in the domain of the conscious than visual appeals. Role games and enactments of short scripts require full bodily movements and are based on the mobilization of emotional kinetic elements inherent in languages. In addition to their stimulating effect, they create opportunities for guesswork, mental elaboration, new approaches, re-evaluation and, consequently, for the application of new lexical items and systematization of knowledge.

Neuropsychological investigations support the hypothesis that the words and lingual patterns related to kinetic action are embedded in the networks of brain cells in a different manner than other kind of words. The learners' auditory and visual perceptions are enriched by kinetic sensations, i.e., the sensations of their own motions, and help reduce the psychic and kinetico-phonetical handicaps. These theoretical investigations contribute significantly to the achievements in teaching Russian, English and Spanish at the Karl Marx University in Leipzig.

The programme of language teaching was drafted by the University with due regards for the prevailing language examination requirements of three-graded language examinations. Genuine breakthroughs were achieved primarily in the field of learning languages. The conventional language teaching scheme made it possible to assimilate the subject matter required for passing the basic state examinations within 600-700 hours, whereas suggestologically trained learners were successful at their exams after 120 hours. The examination material included 3000 lexical items, of which 2000 were learned actively, and 1000 passively.

The subject matter comprising the bulk of knowledge required to pass the second grade language examination was also elaborated. Adequate speech habits being taken for granted, the learners are required to prove their skills in translating from the foreign language into the native tongue.

The Karl Marx University in Leipzig makes use of suggestopaedic instruction not only in language teaching, but also at the faculty of natural sciences in teaching anatomy. Conspicuous achievments have been scored with subjects where a great deal of material was to be committed to memory. At the same time, the activation and intellectual ardour of the students was geared up. These results are all the more noteworthy because anatomy taught suggestopaedically was adjusted to the university curriculum, and these classes were followed with conventional lectures.

With an eye constantly kept on the objectives of teaching, the lecturers at the Leipzig University organize upon the request of private enterprises and institutions, technical and special purpose courses. Another merit to Karl Marx University's credit is the training of teachers in suggestopaedia.

The Lozanov method has recently been introduced in a Vienna school. The Austrian Government requested the Bulgarian Government to allow Dr. Lozanov to stay in Vienna for a week each month in order to supervise and guide the application of his method. The latest results achieved in Vienna were reported to the suggestopaedic specialists at the 1979 Iowa International Conference (Beer, 1979).

As mentioned in the report prepared by the director of the Vienna Boltzmann Philological Institute, Dr. Franz Beer, suggestopaedia was evaluated in a Vienna public school in two first grade classes with 64 students in the subjects of reading, writing and arithmetic in 1973/74. There were no significant pretest differences between the two classes in intelligence, vocabulary, picture-test or educational-professional background of parents. One class received its instruction suggestopadically with a trained teacher and specially prepared materials. At the end of the school year, the experimental pupils had achieved the goal for first grade arithmetic, reading and writing. See Table 3.

Table 3.

Grade levels achieved at end of first grade
in Vienna suggestopedic school:

Subject	1	2	3	4	5	Total
Reading	15	11	6	0	0	32
Writing	15	14	3	0	0	32
Arithmetic	7	13	12	0	0	32

Result of the experiment after 10 months

Arithmetic: The teaching goal of the first grade was certainly reached, and 2nd and 3rd grade materials were also taught successfully. The parents concerned are in complete agreement with the achievements.

Reading: It was the goal of the experiment to bring the children to a high reading ability and level of comprehension. For that purpose they were offered more reading material than the other 1st grades. By November many children could already read well. The teaching goal in reading for the 1st grade was already reached by the end of the 1st semester.

Writing: In this subject the teaching goal of the 1st grade was reached, and a large part of the achievement goals of the 2nd grade as well.

In the remaining subjects not included in the experiment the teaching goal was reached.

Parents' opinions

A total of three discussions with Dr. Lozanov, the parents, the teacher, the department head and the principal were held during the 1974/75 school year. Periodic discussions between the teacher and the parents also took place. No negative opinions were expressed by the parents.

Interest in suggestopaedia was also displayed in Amsterdam. At the Amsterdam Vrije Universiteit, P. Kuiper submitted a dissertation o n suggestology and suggestopaedia entitled "Inleiling in de suggestologie en suggestopedie". P. Kuiper, doctor of paedagogical sciences, deals in his dissertation with the theory of suggestology and suggestopaedia, suggestopaedic subject matter, the setting up of suggestopaedic courses and with research carried on by western European, U.S. and Bulgarian specialists. The basic source of his dissertation is Dr. Lozanov's "Suggestology", a monograph published in Sofia in 1971. In October, 1976, the author visited Budapest to exchange experiences in the field.

In Hungary, the Scientific Association for Information, a member-organization of the Hungarian Federation of Technical and Scientific Societies (in the person of Assistant General Secretary Miklos Philip), initiated an exchange of experiences and was the first to promote study tours to the Sofia Suggestological Scientific Centre. The director and research fellows of the Bulgarian Institute came to Hungary a number of times to hold lectures for the Hungarian specialists on their research results. Suggestopaedic language courses in English, German and Russian were embarked upon, and suggestopaedia attracted comments in the Hungarian press, paedagogical journals and educational conferences.

In response to the interest displayed and to a social need, the Hungarian Suggestological Section was founded on April 29, 1974, within the framework of the Hungarian Federation of Technical and Scientific Societies' Association for Information. Its membership included specialists from many fields of interest, educators, psychologists, psychiatrists, etc. The Section conducts its activities according to a working plan. The areas touched upon were suggestology, suggestopaedia, their means and their effectiveness in the Hungarian instructional system and in language teaching. One of its crucial tasks is the international exchange of experience, primarily with the suggestological institutes of socialist countries.

In the wake of educational reforms which took place in Hungary, the specialists of the Hungarian Academy of Sciences and the Ministry of

Education attempted to find out how the basic principles of suggestopaedia are made use of in the public instruction. The investigation has not come to an end as of now. At the same time, the Hungarian Federation of Technical and Scientific Societies began to explore the extent to which language instruction gravitates to its sphere of activity as a social organization. Doubts have been expressed as to whether it would not be more advisable to restrict the Federation's scope of action instead of broadening it.

Hungarian Experiences

The exposition of Hungarian experiments should be embarked upon with a survey of the activity carried on in the Suggestological Sector functioning within the Association for Information of the Hungarian Federation of Technical and Scientific Societies.

Before it began to function, the Section obtained from the Sofia Suggestological Scientific Research Centre the curriculum of the English, German and French language courses and the related list of scheduled classical and pre-classical musical pieces. Given the fact that the Bulgarians can understand and read Russian reasonably well without extra learning, the Russian language curriculum was not elaborated by the Sofia Centre.

The Scientific Society for Transport of the Hungarian Federation of Technical and Scientific Societies is justified in claiming merit for the publication in Hungary, where the teaching of Russian is substantial, of the first synopsis for research engineers which is based on the Lozanov method and the works of the Moscow Thorez College (Szalontai, 1975).

As in Bulgaria, the students at the Hungarian courses come from different fields of endeavour, including interested teachers of languages. In order to evaluate progress, written tests were made at the beginning and the end of the courses. At the English and Russian language courses organized by the Scientific Societies for Mechanical Engineers and Transport, the levels of performance were also checked with the help of a video-recorder.

Soon after the first week, learners were capable of striking up five-six minute conversations on subjects studied, greetings, invitations, apartments by those who had never taken up the language concerned before the courses.

The mood and general disposition of the students was also regularly checked during the courses, the evaluation results ranging from "good" to "excellent" in as many as 85-90 percent of the cases. In addition to evaluations of subjective emotions and disposition, some of the learners were subjected to medical checkups. The medical examinations did not reveal any detrimental influences; moreover, a severe case of hypertonia in one of the students turned for the better during course attendance.

The most remarkable result achieved at the courses was the relaxation of lea rners' speech handicaps. The passive vocabulary assumed to have been long forgotten surfaced again, and the students learned an enormous number of vocabulary items which came readil y to their minds when they conversed.

Suggestopaedic theory has it that the objective conditions are determined by gratifying, sound-proof classrooms, small-group instruction and up-to-date equipment, whereas the subjective factors depend on suggestopaedically well-trained teachers, students adjusted to the method and a playful, pleasant atmosphere of the lessons. Easing of handicaps was achieved by the fact that the teachers did not use marks for evaluation and corrected the errors by putting the expressions and sentences right after the student committed a mistake and telling him with a smile and in calm, soothing voice to repeat the pattern in a proper way.

Games, classical music and other suggestopaedic concomitants, even without prior autogenous training and relaxation, aroused a reposeful, tranquil climate, fostered confidence in the suggestopaedic programme to be mastered and destroyed the anti-suggestological barriers, facilitating the utilization of the learners' psychic resources.

By December 1976, 29 courses have been held, all culminating in an examination taken in public. Based on the material studied, the examinations consisted of student-initiated situations and their enactments. Eighty percent of the students were not handicapped in their speech and enactments before the examination board. The enacted situations always climaxed with a punch line which brought the hall full of teachers and students down with applause.

Detailed Results of an English-language Course as Illustrated with Figures:

Composition of the group: 4 men, 3 women,
Of which:
1 student had an excellent command of English,
1 student had a good command of English,
3 students had no knowledge of English, but had a good command of another language,
2 students never studied either English or any other language.
See Table 4.

Table 4

Achievement of Hungarian students in English language class by initial proficiency

	Initial Test			
Initial Proficiency	Oral %	Writing, Translation	Listening, Translation	Initial Average
Good command of English	56	60	80	65
Good command of English	56	40	50	49
Excellent command of another language	27	5	10	14
Excellent command of another language	11	-	-	3.6
Excellent command of another language	10	-	-	5.3
No command of any foreign language	2	-	-	0.7
No command of any foreign language	1	-	-	0.3

Table 4

Final Test				
Initial Proficiency	Oral %	Writing, Translation	Listening, Translation	Final Average
Good command of English	87	100	100	96
Good command of English	83	95	100	93
Excellent command of another language	84	90	100	91
Excellent command of another language	79	95	100	91
Excellent command of another language	76	95	70	80.3
No command of any foreign language	35	10	20	23
No command of any foreign language	13	20	-	11

According to the prescriptions of the Lozanov programme, the learners answer the same test at the beginning and the end of the course to facilitate performance measurements. The test checks the learners' mastery of vocabulary, comprehension upon hearing and the translation skills. The learners who had previously studied other foreign languages, achieved appreciably better results in the new foreign language, notably English.

Of all English suggestopaedic courses, the most conspicuous appears to be the one organized at the Budapest Technical University in April, 1976. Teaching the course was visiting professor Dimcheva from the Sofia Suggestological Research Centre. The participants, a deputy minister, a journalist, and a university lecturer were personally persuaded that this method fosters the emergence of a closely-knit community, and under the influence of role games, situations based on contrasts, the music and the movements, students gradually reduce their tensions and speech handicaps.

The detailed statistical results of the course are as follows: The average performance is high, amounting to 91.9 per cent. The lowest average performance was 77 per cent (1540 vocabulary items), the highest average performance was 98 per cent (1960 vocabulary items assimilated).

After a period of one month following the end of the course, we had the learners write control tests. A few learners showed a decline of 1-2 per cent in their performance, but most of them attained a 2-25 per cent improvement.

Conclusions and Implications

The suggestopaedic methods belong with intensive teaching techniques. The growing avalanche of information from every field of endeavour and the leapfrogging of technical progress calls for and fosters the expansion of new intensive methods of teaching, suggestological methods among them.

Compared to the results achieved abroad, the experiments in Hungary are but in an embryonic stage, yet the following conclusions may already be drawn:

- suggestological methods of teaching reduce the time and increase the effectiveness in goal attainment compared with those employed previously.
- the suggestopaedic methods of instruction are primarily advantageous to introducing texts to be committed to memory.
- these techniques contribute to overcoming learning related fears and handicaps, as well as to arousing and sustaining interest.
- these methods enhance the faculty of mental concentration, the mnemonic capacity, pupil participation in the process of learning and quick, spontaneious reactions on the part of the learners.
- suggestology may have a role to play in preventing physical and psychic diseases related to learning.
- the methods strive at harnessing the dormant psychological resources.
- suggestive elements are interwoven in every area, therefore it seems necessary to make conscious use of them in the educative and instructional processes.
- out of all suggestological methods, most of the attention is being now paid to *suggestopaedic* techniques because of their *effectiveness, economy of effort* , simple means and pleasant atmosphere. Georgi Lozanov considers it a method in its own right, a new pedagogical trend systematizing elements he deems sufficient from psychotherapy and everyday life, and assumes that this method is apt to revolutionize the entire system of instruction.

Suggestopaedia is applicable first and foremost in language teaching, notably in the teaching of spoken language. In our view, the method may stand in good stead in teaching specialists who have to learn to negotiate in the language concerned within the shortest period of time, possible errors of grammar notwithstanding. It may prove of no little interest in teaching the so-called tourist language.

Its chief characteristics are as follows:

- it scores a time advantage! To the contemporary man on the rush, it holds out the promise of embracing vaster knowledge than is possible to assimilate by means of conventional or other so-called suggestological methods.
- the conventional method elicits adeptness in the spoken language on the basis of knowledge, habits and speech skills, whereas suggestopaedia does not comply with these stages of mastering language. It does not teach words, grammar, etc. separately, but employs these building blocks all at once in its long dialogues with a significant time gain.
- instruction takes place in a relaxed, joyous, playful and entertaining atmosphere. It is a welcome change in our strained stress-burdened life!
- it does much to dissolve the if-only-I-didn't-have-to-speak-up fears and speech handicaps which are especially detrimental in the case of adult learners and specialists from intellectual fields of endeavour. It is preoccupied with "dealing with", rather than "teaching" the language.
- in marked contrast with our ultrasonic, automated world, the

method is humane, man-orientated.

- its means are simpler than those of other suggestological systems of instruction. It does not require a hypnotic laboratory and regular medical supervison. To embark on suggestopaedic instruction, nothing is needed but a suggestopaedically well-trained teacher and a classroom furnished a little unconventionally.

The rest of suggestological methods, i.e. hypnopaedia, rhythmopaedia, relaxopaedia, are concomitant techniques whose employment calls for complex medical supervision and special laboratories; for the time being in day-to-day pedagogical practice they are therefore used only in exceptional circumstances and conditions.

Summing up, it may be stated, as educator Gyozo Sipoozy (1976) has already indicated that "methods exist, but miracles do not." It is implied that each method of instruction is, or rather may be, useful in its proper place and time, therefore in terms of effectiveness the suggestological methods cannot be qualified as exceptional.

The inquiries into brain physiology, molecular biology and psychology of the recent decade have ascertained the presence of untapped brain resources and the possibilites of their mobilization. The resources of intellectual potentials, moreover, can be put to good use by means of suggestological methods.

Experiments are underway the world over. Many a question has not been resolved yet. Therefore, this treatise could not undertake to state and compare anything categorically. It was aimed only at surveying and pointing up the results achieved and the methods of instruction which make it possible within a relatively short period of time for adult learners to master the subject matter concerned, primarily a foreign language.

Incidentally, it is our conviction that breakthroughs in physiological and psychological research will provide a powerful impetus to both suggestopaedia and other suggestologcial methods accelerating and facilitating the process of learning.

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Les aspects fondamentaux de la Suggestopédie
Dans cet article on examine les premières recherches qu'on a faites en Europe de l'Est sur la Suggestopédie et on parle surtout de ce qu'on a fait en Hongrie dans ce domaine et par rapport à l'enseignement des langues étrangères. Ce rapport comprend aussi des commentaires sur des sujets tels que l'enseignement suggestopédique de la lecture et des mathématiques et tire une conclusion des expériences hongroises de la Suggestopédie.

Die grundlegenden Probleme von Suggestopedy
Dieser Bericht gibt einen Überblick über die frühe Arbeit mit Suggestopädie in Osteuropa und legt Einiges aus der anfänglichen Arbeit mit Suggestopädie in Ungarn dar, besonders im Fremdsprachenunterricht. Das Lehren des Lesens und der Mathematik, die Geschichte der Verbreitung von Suggestopädie, ungarische Erfahrungen, Schlußfolgerungen und Hinweise sind Themen, welche behandelt werden.

PROBLEMAS FUNDAMENTALES DE LA SUGGESTOPEDIA

Este reporte revisa los primeros trabajos en suggestopedia en Eastern Europe y presenta algo de los trabajos originales en suggestopedia en Hungria, especialmente en enseñanza de lenguas estranjeras. Los tópicos que cubre son enseñanza de lectura y matemáticas, historia de la espanción de la suggestopedia, esperiencias Hungaras, conclusiones y aplicaciones.

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE
LEARNING AND TEACHING

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